



M-100
100-B

motor graders

parts catalog

Form 70680409 English

AVOID ACCIDENTS

Most accidents, whether they occur in industry, on the farm, at home or on the highway, are caused by the failure of some individual to follow simple and fundamental safety rules or precautions. For this reason **MOST ACCIDENTS CAN BE PREVENTED** by recognizing the real cause and doing something about it before the accident occurs.

Regardless of the care used in the design and construction of any type of equipment there are many conditions that cannot be completely safeguarded against without interfering with reasonable accessibility and efficient operation.

A careful operator is the best insurance against an accident. The complete observance of one simple rule would prevent many thousand serious injuries each year. That rule is:

Never attempt to clean, oil or adjust a machine while it is in motion.

NATIONAL SAFETY COUNCIL

WARNING

On machines having hydraulically, mechanically, and/or cable controlled equipment (such as shovels, loaders, dozers, scrapers, etc.) be certain the equipment is lowered to the ground before servicing, adjusting and/or repairing. If it is necessary to have the hydraulically, mechanically, and/or cable controlled equipment partially or fully raised to gain access to certain items, be sure the equipment is suitably supported by means other than the hydraulic lift cylinders, cable and/or mechanical devices used for controlling the equipment.

SUPPLEMENT NO. 1

PARTS CATALOG FORM 0680409-0

M100 GRADER

(7-72)

ATTENTION: Insert this sheet into the front of publication as record of receipt. Replace or add pages in the publication according to instructions below.

Additional copies of this supplement are available. Please direct your request to *Allis-Chalmers, Technical Publications Department, Construction Machinery Division, Springfield, Illinois, 62708, U.S.A.*

REASON: This supplement is issued to provide service for graders serial No. 67S06589 and up with "Bosch-Germany" Fuel Injection Pump.

19 (No change)	57B (Added)	67 (Revised)	*113 (Revised March 1972)
20 (Revised)	58 (No change)	67A (Added)	*114 (Revised March 1972)
52A (Added)	61 (Revised)	67B (Added)	181 (No change)
52B (Added)	61A (Added)	68 (No change)	*182 (Revised March 1972)
57 (Revised)	61B (Added)	68 (Revised)	*183 (Revised March 1972)
57A (Added)	62 (Revised)	68A (Added)	184 (No change)

* Previously issued pages

Also make the following changes: (Changes are underlined)

PAGE	ITEM	PART NO.	QTY	DESCRIPTION
14	1	4359358-1		ENGINE ASSY. (Standard on graders unit #05130 thru #05157; also #05190 thru #06588)
	1 Add:	4359736-8		ENGINE ASSY. ("Bosch-Germany" Injection Pump. Turbocharged)(Standard on graders unit #06589 and up)
17	20	4354635-7	- 1	COVER (Used prior to engine #11-19309)
	20 Add:	4359668-3	- 1	COVER, valve lifter, front (Effective with engine #11-19309)
18	21	4335456-2	6 6	WASHER } <u>3 less used engine #11-19309 and up</u>
	22	4335455-4	6 6	BOLT }
	22 Add:	4359683-2	- 3	BOLT, valve lifter cover, front (Effective engine #11-19309)
31	4	4359193-2	6	GUIDE, exhaust (Change part No. to <u>4359192-4</u>)
	5	4359192-4	6	GUIDE, intake (Change part No. to <u>4359193-2</u>)

NOTICE
These changes are included in this copy

(Continued)

PAGE	ITEM	PART NO.	QTY.	DESCRIPTION
35	7	4347511-0	2	BRACKET
		0919287-3	6	CAPSCREW
		0904206-0	6	LOCKWASHER
	7 Add:	4359701-2	2	BRACKET, valve lifter
		4255393-2	6	BOLT, 3/8"NC x 1-3/4"
8	4347832-0	4	DOWEL (Engines prior to #10-14971 and #11-19282)	
53	USAGE: Graders serial No. 1209 thru No. 5000; Also graders serial No. 67S05001 thru 67S06588			
71	In heading: ** Graders serial No. 1209 thru No. 5000; also graders serial No. 67S05001 and up.			
	3	081760	1 1	BRACKET (Gaders prior to unit #6589)
	3 Add:	682325	- 1	BRACKET, operating lever stop (Gaders unit #6589 and up)
72	24	650447	- 1	BELLCRANK ASSY. (Gaders prior to unit #6589)
	24 Add:	679778	- 1	BELLCRANK ASSY., lower rear (Includes item 25) (Gaders unit #6589 and up)
	26	650436	- 1	ROD (Gaders prior to unit #6589)
	26 Add:	679793	- 1	ROD, throttle control, rear (vertical)(Gaders unit #6589 and up)
	27	650445	- 1	ROD (Gaders prior to unit #6589)
	27 Add:	679784	- 1	ROD, throttle control, rear (horizontal)(Gaders unit #6589 and up)
	Add: 29A	4393286	- 1	LEVER ASSY., throttle control (Gaders unit #6589 and up)(Not illustrated)
179	1	0675684-5	1	ASSY. (See page 182 for parts)
	10	0675682-9	1	ASSY. (See page 183 for parts)
253 Add:	USAGE: Graders prior to Serial No. 67S06589 ** Graders serial No. 1600 thru 67S06589 also graders serial No. 67S05001 and up.			

NOTICE
 These changes are
 included in this copy

ADDITIONAL PUBLICATIONS AVAILABLE
FOR
MODEL M 100 MOTOR GRADER
(See NOTE below)

DESCRIPTION	SERIAL NO.	FORM NO.			
		ENGLISH	ESPAÑOL (Spanish)	FRANÇAIS (French)	PORTUGUES (Portuguese)
<u>PARTS CATALOGS</u>					
Injection Pump (American Bosch) Pr. S/N 1209		70696878			
Injection Pump (Roosa-Master). S/N 1209 thru 67S06588		70685399			
Injection Pump (Robert Bosch) S/N 67S06589 - up		70698576			
Motor Grader All		70680409			
<u>OPERATORS MANUALS</u>					
M100 Pr. S/N 1001		70633816			
M100 (Series B). S/N 1001 - up		70681824	70673197	70680447	70679488
<u>SERVICE MANUALS</u>					
Electrical System All		70696657	70681718	70688844	
Engine (10000 & 11000). All		70645121	70650410	70650412	70650411
Engine Clutch & Clutch Brake All		70646138			
Front Wheel, Axle & Wheel Lean. All		70651543			
Fuel Injection Nozzles. All		70682797			
Hydraulic System S/N 1001 - up		70651549			
Injection Pump (American Bosch) Pr. S/N 1209		70657398			
Injection Pump (Roosa-Master). S/N 1209 thru 67S06588		70656820			
Injection Pump (Robert Bosch) S/N 67S06589 - up		70681649			
Moldboard, Drawbar, Circle, Scarifier & Gear Cases All		70651545			
Power Control Box, Vertical Drive & Power Take-off All		70677883			
Rear Wheels & Brakes All		70657712			
Tandems & Rear Axle All		70641623			
Transmission & Drive Shaft U-Joint All		70693862			
Turbocharger (TE-06). Pr. S/N 5190 excl. 5130 thru 5157		70677064	70678570	70678727	70679482
Turbocharger (TO-4) S/N 5130 - up excl. 5158 thru 5189		70687805	70679633	70679635	70679634
* Complete Service Manual.		70682501	70678728	70681717	
* Engine and Turbocharger not included in Foreign Translations; Fuel Injection Pump and Nozzles not included in English.					

NOTICE

CONSULT ALLIS-CHALMERS CONSTRUCTION MACHINERY DEALER FOR PUBLICATIONS.

SEE CONSTRUCTION MACHINERY TECHNICAL PUBLICATIONS INDEX (FORM 70658800) FOR ALL AVAILABLE PUBLICATIONS.

PUBLICATIONS INDEX (FORM 70658800) IS AVAILABLE FREE FROM YOUR DEALER.

IMPORTANT

All parts listed herein, which have no specific usage indicated, are applicable to all models. Those parts which are used only on specific models are so indicated.

Attaching parts such as bolts, nuts, rivets, screws, washers, etc., are indented immediately following the parts which they attach.

Parts indicated with a square (□) are also available in packaged sets. Refer to section titled "PACKAGED PARTS".

The terms "right" and "left" used throughout this parts catalog are determined by facing the direction of forward travel.

The engine is mounted unconventionally with the flywheel toward the front of the machine, but all engine parts are designated in respect to the engine as it would be installed in a conventional machine with the flywheel to the rear.

INSTRUCTIONS FOR ORDERING PARTS

At the time this parts catalog was published the listed part numbers were current. It is our policy to constantly improve our machines and therefore, part numbers and design may change. When ordering parts, verify part numbers through your dealer's parts catalog which is up to date with all latest part numbers.

Order parts from the dealer covering the local territory.

ALWAYS GIVE THE MODEL AND SERIAL NUMBER OF MACHINE. IF PARTS ARE FOR AN ASSEMBLY WHICH HAS A MODEL AND/OR SERIAL NUMBER (SUCH AS ENGINE ASSEMBLY, PUMP ASSEMBLY), ALSO INCLUDE THIS INFORMATION.

To obtain parts promptly, give part name and part number.

Give post office address, town, county and state where parts are to be shipped. Also specify whether material is to be shipped by freight, express or parcel post.

Confirm all telephone or telegraph orders in writing.

Parts for standard motor accessories such as generators and starting motors should be ordered from authorized Service Stations maintained by manufacturers of these units throughout the country.

No credit will be allowed on parts unless they are returned to the dealer from whom they were purchased; from there they will be returned, at the customer's expense, to the factory for inspection.

Unless claims for shortages or errors are made immediately upon receipt of goods, they will not be considered.

When broken goods are received, a full description of the damage should be made by the carrier agent on the freight bill. If this description is insisted upon, full damage can always be collected from the transportation company.

No responsibility is assumed for delay or damage to merchandise while in transit. Our responsibility ceases upon delivery of shipment to the transportation company from whom a receipt is received showing that shipment was in good condition when delivered to them; therefore, claims (if any) should be filed with the transportation company and not with Allis-Chalmers.

The right is reserved to change the construction or material of any parts where it seems desirable to do so without incurring the obligation of installing such changes on units already delivered.

(Specifications and design subject to change without notice)

MODEL IDENTIFICATION

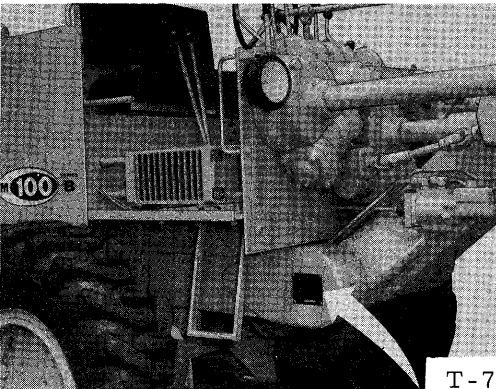
The symbol listed below is stamped in front of the model serial number on each unit.

MODEL SYMBOL	ENGINE MODEL	DESCRIPTION
M100	10000	Motor Grader naturally - aspirated engine, grader serial No. 101 thru 1000
M100	11000	Motor Grader, special equipment turbo-charged engine, graders prior to serial No. 5000
M100 (Series B)	10000	Motor Grader, naturally - aspirated engine, Graders serial No. 1001 thru 5000.
M100 (Series B)	11000, serial No. 11-16145 and up	Motor Grader, standard turbocharged engine. Graders serial No. 67S05001 and up.

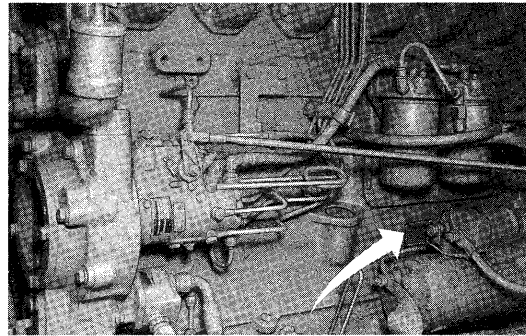
RECORD YOUR SERIAL NUMBERS BELOW

MODEL SERIAL NUMBER _____

ENGINE SERIAL NUMBER _____



T-73690



T-73691

MODEL SERIAL NUMBER

NOTE: Effective in 1969, the model serial numbering system was changed. Under the prior system models were numbered consecutively in numerals only. Thereafter models are identified by an 8 character combination of letters and numerals.

***SERIAL NUMBER**, consisting of all 8 characters must always be submitted for positive identification of your machine. This Point Cannot Be Over-emphasized.

GRADER MODEL	*SERIAL NO.	
	PRODUCT CODE	UNIT NO.
M100 Series B	67S	05001

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	70919156	29-3/4		70919175	F		70919175	F	70919076		70643431
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	70919155	12-5/8	70920849	70920302	A	70920836	70919073	C	70919075		70645383
	70919155	10-1/4	70920849	70920302	A	70920836	70919073	C	70919075		70645388
	70920726	8-7/8	70920851	70921046	A	70920851	70921046	A	70919469		70645389
	70919156	16-1/4	70920850	70920303	A	70920850	70920303	A	70919076		70645408
	70919156	22-1/4	70920850	70920303	A	70920850	70920303	A	70919076		70645409
	70919156	20-3/4	70920850	70920303	A	70920850	70920303	A	70919076		70645410
	70919474	8-3/16	70920851	70921046	A	70920873	70922455	E	70919469		70645411
	70919156	27-3/4	70920858	70919080	B	70920858	70919080	B	70919076		70645412
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	70919474	13		70923867	B	70920866	70919473	E	70919469		70647781
	70919156	15-5/8	70920850	70920303	A	70920865	70919081	E	70919076		70647993
	70919155	9-5/8	70920849	70920302	A	70920864	70919082	E	70919075		70650318
	70919196	20-3/4	70920847	70920301	A	70920862	70919194	E	70919143		70650319
	70919155	53-1/8	70920849	70920302	A	70920849	70920302	A	70919075		70650784
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	70919196	11-3/4	70920869	70919253	E	70920869	70919253	E	70919143		74339752
	70919196	10-3/4	70920862	70919194	E short	70920869	70919253	E long	70919143		74339753
	70920388	12-3/4		70920806	A		70920806	A	NONE		74357430

PACKAGED PARTS

PACKAGE NUMBER	DESCRIPTION
74359410	GASKET KIT, cylinder head
4	70923574 O-RING, water by-pass tube (Discard)
4	70923813 O-RING, water manifold tube
1	74300145 GASKET, water outlet elbow
2	74336148 GASKET, rocker cover
4	74336182 GASKET, water manifold
1	74336263 GASKET, thermostat housing
1	74336266 GASKET, water elbow (Discard)
2	74337764 GASKET, valve lifter cover
6	74346138 GASKET, intake manifold
2	74348133 GASKET, breather tube
1	74359029 GASKET ASSY., front cylinder head
1	74359030 GASKET ASSY., rear cylinder head
6	74359355 GASKET, exhaust manifold
6	74378031 GASKET, injection nozzle
74359120	GASKET KIT, intermediate, cylinder block (Graders prior to #1209)
1	70923589 O-RING, fan drive (Discard. Not for grader)
1	70923718 O-RING, oil filter
1	70923814 O-RING, hydraulic pump drive
1	70923815 O-RING, camshaft hole plug
2	70667252 GASKET, oil drain plug
2	74113897 GASKET, oil regulating valve nut
1	74335056 GASKET, water pump volute
3	74335577 GASKET, oil filter hose
1	74335578 GASKET, oil filter hose
1	74335712 GASKET, cover plate
1	74336345 GASKET, cover plate
1	74336897 RING, sealing, flywheel housing to crankcase
1	74346169 GASKET, oil pipe
2	74346441 GASKET, oil pipe (Discard. Not for grader)
1	74346456 GASKET, water inlet elbow
1	74346744 GASKET, water pump
1	74347031 GASKET, water by-pass flange
1	74347120 GASKET, oil filler hole cover
1	74348126 GASKET, timing gear cover
1	74348136 GASKET, timing gear housing
1	74348184 GASKET, oil cooler water outlet
1	74348185 GASKET, oil cooler water inlet
2	74348215 GASKET, oil pipe
1	74348218 GASKET, oil pipe
1	74349011 GASKET, cover plate
1	74362458 GASKET, oil pump cover (Discard. Not for grader)
1	74371289 GASKET, oil pan cover
2	74373069 GASKET, oil pan cover (Discard. Not for grader)
74359122	GASKET KIT, intermediate, cylinder block (Graders #1209 and up)
2	70667252 GASKET, oil drain plug
2	70923376 O-RING, flywheel housing dowel
1	70923589 O-RING, fan drive (Discard)
1	70923814 O-RING, hydraulic pump drive
1	70923815 O-RING, camshaft hole plug
1	70923816 O-RING, flywheel to crankshaft (Discard)
1	70923820 O-RING, fan drive
1	70924139 O-RING, injection pump mounting cover
1	74335056 GASKET, water pump volute
1	74336436 GASKET, oil drain flange
1	74336676 GASKET, timing hole cover
1	74336897 RING, sealing, flywheel housing to crankcase
1	74339150 GASKET, filter head to block (Discard)
1	74339151 GASKET, oil cooler to block (Discard)
1	74346169 GASKET, oil pipe
2	74346441 GASKET, oil pipe (Discard)
1	74346456 GASKET, water inlet pipe

(Continued)

PACKAGED PARTS (Continued)

PACKAGE NUMBER	DESCRIPTION
74359122	GASKET KIT, intermediate, cylinder block (Graders #1209 and up)(Cont'd)
1	74346744 GASKET, water pump
1	74347031 GASKET, water by-pass flange
1	74347120 GASKET, timing hole cover
1	74348126 GASKET, timing gear cover
1	74348136 GASKET, timing gear housing
1	74348184 GASKET, filter head to block
1	74348185 GASKET, oil cooler water inlet
2	74348215 GASKET, oil pipe
1	74348218 GASKET, oil pipe
1	74354163 GASKET, timing gear cover
1	74354304 GASKET, fan hose bracket (Discard)
1	74354415 GASKET (Discard)
1	74362458 GASKET, oil pump cover (Discard)
2	74373069 GASKET, oil pan cover (Discard)
	} Discard
-----	GASKET KIT, turbocharger (See TURBOCHARGER section)
70651180	INSTALLATION KIT, engine (Graders prior to #1209)
1	70051110 BLOCK, pedal stop
1	70077341 CLIP, tube supporting
4	70078810 PIN, yoke
1	70085038 PIN, yoke
1	70242038 PIN, shut-off cable
2	70628736 YOKE, control rod
1	70628737 YOKE, control rod
1	70628738 PIN, control rod yoke
2	70639314 CLIP, cable supporting
1	70646631 NUT, cable supporting (welds to seat and tank assy.)
1	70659123 CABLE ASSY., engine shut-off control
1	70650317 BRACKET, cable supporting
1	70650318 HOSE, fuel supply
1	70650436 ROD, throttle control
1	70650439 ROD, throttle control
1	70650445 ROD, throttle control
1	70650447 BELLCRANK ASSY.
1	70650484 TUBE, fuel pressure gauge
1	70650495 TUBE, fuel pressure gauge
1	70658356 GAUGE, fuel pressure
1	70666557 HOSE, fuel return
1	70917649 PIN, yoke
1	70919062 CONNECTOR, flare type, 3/8" tube, 1/4" NPT male
1	70919140 CONNECTOR, flare type, 1/4" tube, 1/4" NPT male
1	70919171 CONNECTOR, flare type, 1/4" tube, 1/8" NPT male
1	70919174 CONNECTOR, flare type, 1/4" tube, 1/8" NPT female
1	70919214 UNION, flare type, 1/4" tube
1	70923178 CONNECTOR, flare type, 3/8" tube, 1/4" NPT female
1	----- LOT OF MISC. ATTACHING HARDWARE
74359601	PISTON AND SLEEVE KIT (Engines prior to #10-11022. If replacing entire set order PISTON AND SLEEVE KIT 74359602 and GASKET KIT 74359410)
2	74255465 RETAINER, piston pin
1	74336578 RING SET, piston
1	74337395 PIN, piston
2	74337972 O-RING, cylinder sleeve
1	74358730 PISTON
1	74359581 SLEEVE, cylinder
1	74359586 O-RING
74359602	PISTON AND SLEEVE KIT (Effective with engine #10-11022)
2	74255465 RETAINER, piston pin
1	74336578 RING SET, piston
1	74337395 PIN, piston
2	74337972 O-RING, cylinder sleeve
1	74358730 PISTON
1	74359582 SLEEVE, cylinder
1	74359586 O-RING, cylinder sleeve

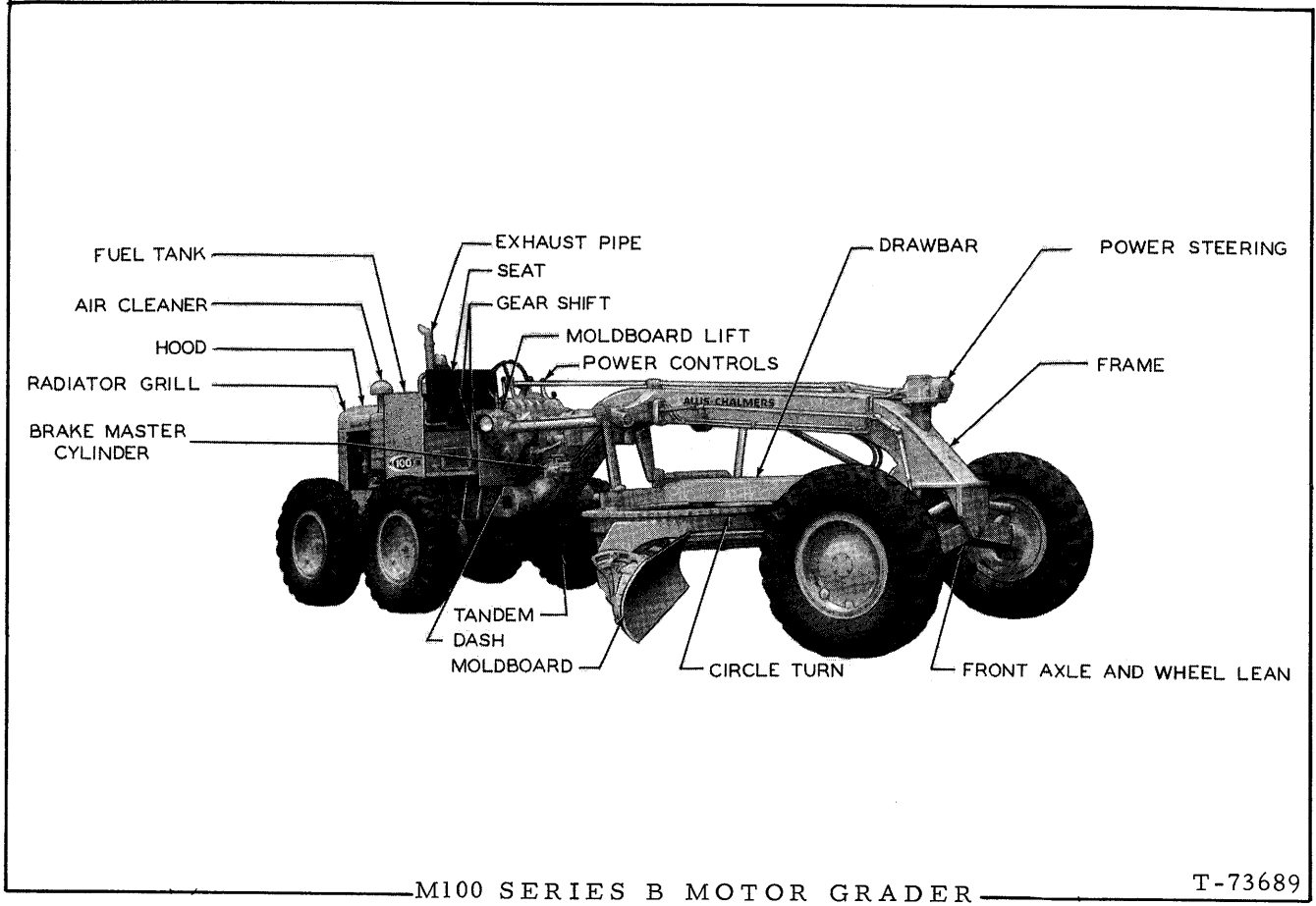
PACKAGE PARTS

**PACKAGE
NUMBER**

DESCRIPTION

-----	REPAIR KIT, brake booster (See page 156)
-----	REPAIR KIT, brake master cylinder (See page 157)
-----	REPAIR KIT, clutch booster (See page 111)
-----	RING SET, piston (See PISTON AND CONNECTING ROD)
-----	TOOL SET (See TOOLS)
-----	TRANSFER SET (See PAINTING AND MARKING)
74321189	ENGINE OIL PUMP KIT (Adapts ACULOP scavenging and oil pressure pump to engines prior to serial No. 11-24134)
1	70035250 PLUG
1	70667252 GASKET
2	70904206 LOCKWASHER, 3/8"
2	70907863 LOCKWASHER, 7/16"
4	70910287 LOCKWASHER, 3/8"
5	70912369 WASHER
29	70913544 WASHER
22	70914847 CAPSCREW, 3/8"NCx 1-1/2"
4	70916271 CAPSCREW, 3/8"NCx 1"
4	70916279 CAPSCREW, 5/16"NCx 1-1/2"
8	70916543 LOCKWASHER, internal tooth, 3/8"
2	70916871 NUT, elastic stop, 5/8" NC
1	70919784 CAPSCREW, 5/16" NCx 4"
4	70921076 CAPSCREW, 3/8" NCx 1-1/4"
1	70921204 PLUG, 1-1/16" str. -thd. (Includes O-RING)
2	70921565 CAPSCREW, 3/8" NCx 1-1/2"
8	70923193 CAPSCREW, 3/8" NFx 1-1/4"
2	70928212 NUT, 7/16" NC
1	70930924 O-RING
5	74255916 CAPSCREW, Nylon strip, 3/8" NC x 1"
1	74320597 VALVE ASSY., pressure relief
1	74320838 ELBOW
1	74320839 TUBE
1	74320885 TUBE
1	74320887 TUBE
1	74320916 GASKET
1	74321052 ELBOW
1	74321053 U-BOLT
1	74321691 BRACKET
1	74321186 PAN, oil
1	74321399 OIL PUMP ASSY., w/GEAR
1	74337740 GASKET
1	74337741 PLATE
4	74393359 GASKET
2	74395024 DOWEL
1	74347543 GASKET
1	OA-8673 DRAWING

(Revised May 1978)

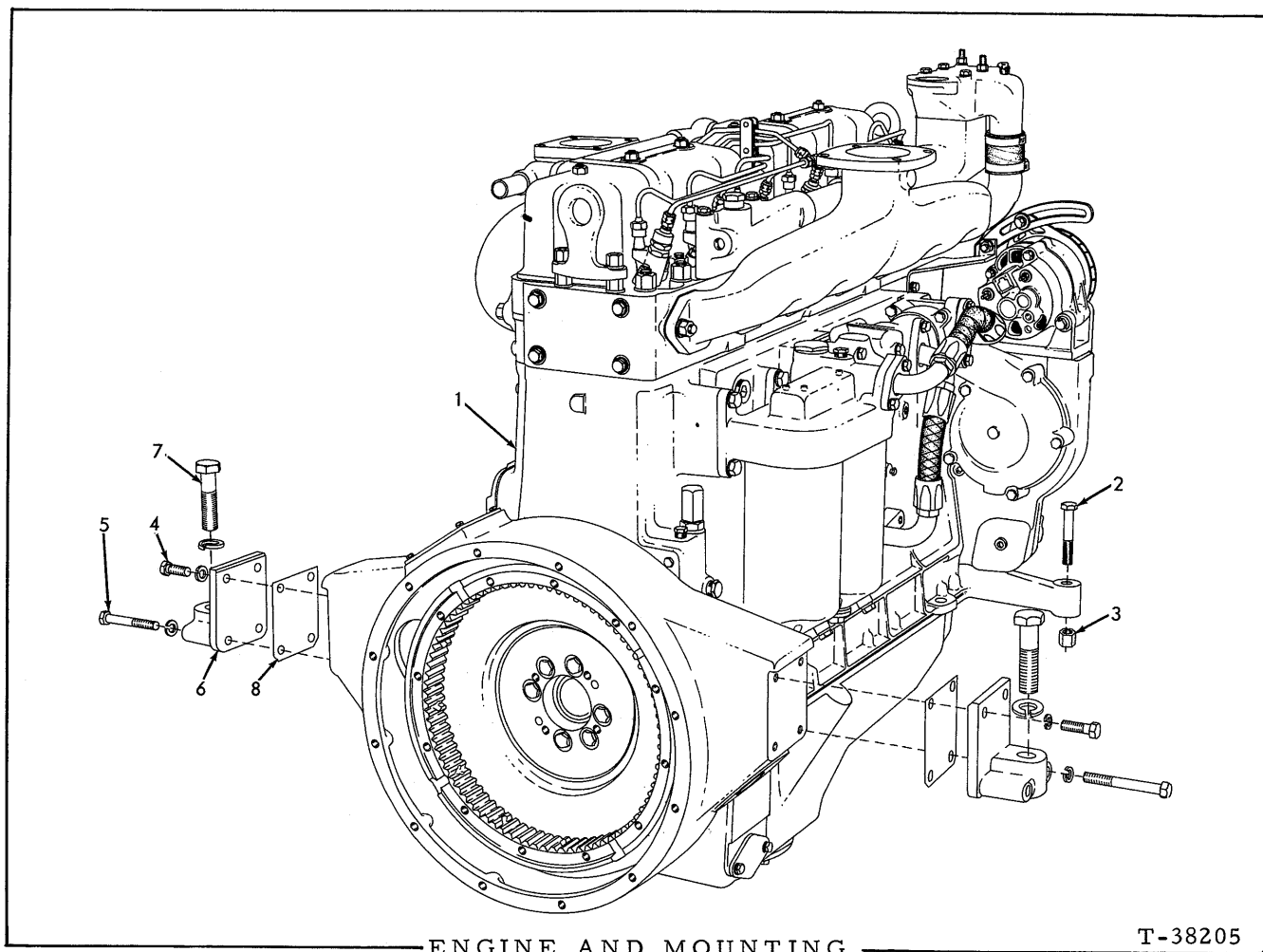


M100 SERIES B MOTOR GRADER

T-73689

MEMO

MEMO



ENGINE AND MOUNTING

T-38205

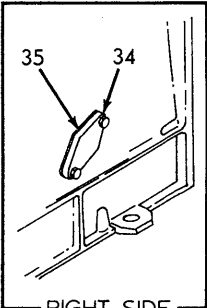
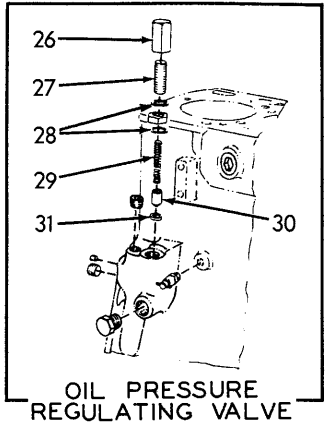
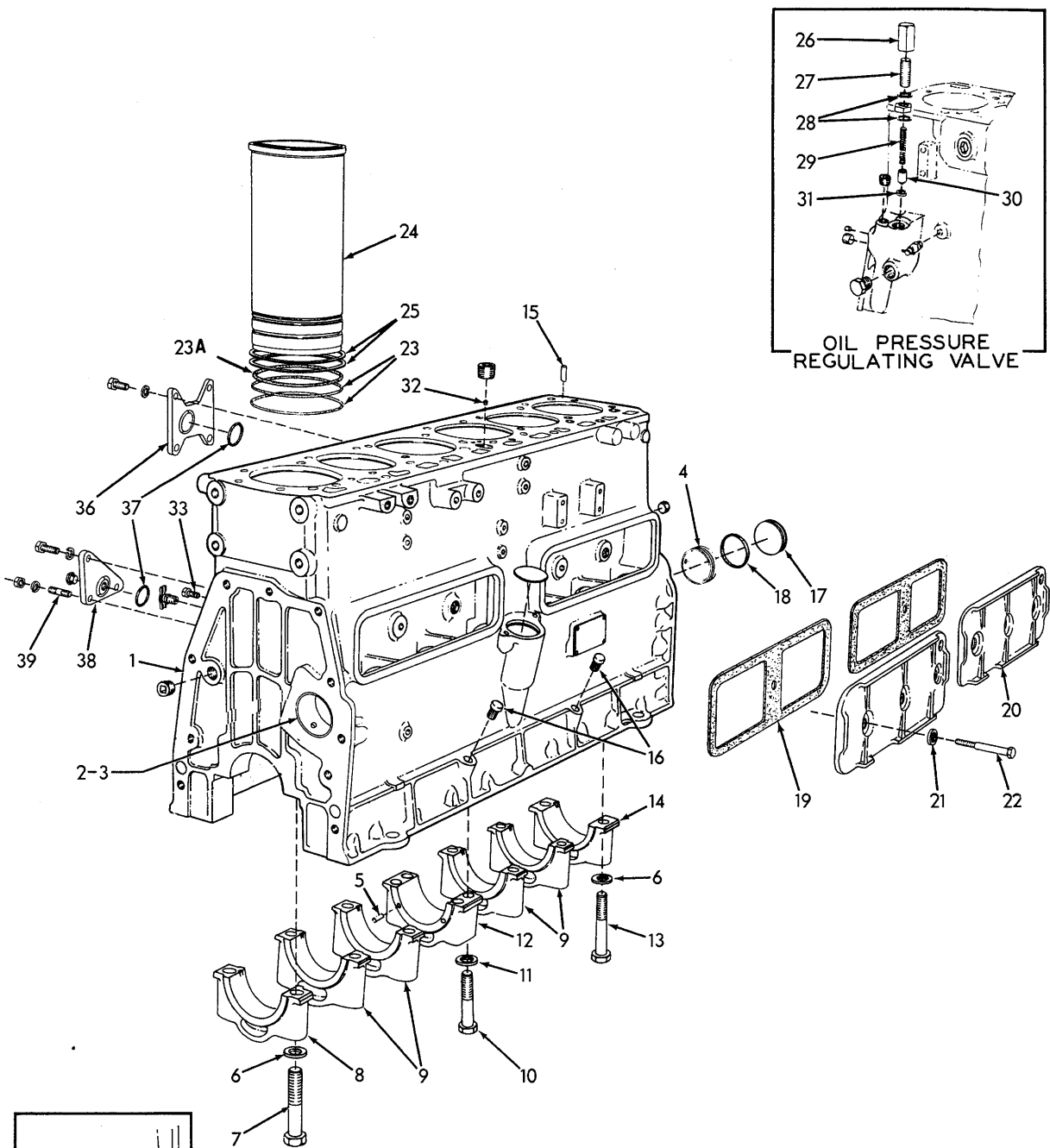
ITEM	PART NO.	QTY.	DESCRIPTION
1	-----	1	ENGINE ASSY. ("American Bosch" Injection Pump. Non-turbo-charged)(Graders prior to #1209. Order ENGINE ASSY. 74354579 and item 9)
	74354579	1	ENGINE ASSY. ("Roosa" Injection Pump. Non-turbocharged. Standard on graders #1209 thru #5001)
	74359118	1	ENGINE ASSY. ("Roosa" Injection Pump. Turbocharged. Optional on graders prior to #5001. Standard on graders unit #05001 thru #05129 and #05158 thru #05189)
	74359358	1	ENGINE ASSY. ("Roosa" Injection Pump. Turbocharged)(Standard on graders unit #05130 thru #05157; also #05190 thru #06588)
	74359736	1	ENGINE ASSY. ("Bosch-Germany" Injection Pump. Turbocharged) (Standard on graders unit #06589 and up)
2	70915985	2	CAPSCREW, 5/8"NF x 3-1/2"
3	70072366	2	NUT, high, 5/8"NF
4	70915987	4	CAPSCREW, 1/2"NC x 1-1/2"
5	70914399	4	CAPSCREW, 1/2"NC x 3-3/4"
	70904208	8	LOCKWASHER, 1/2"

NOTE: Each engine assembly listed above includes oil filter, oil cooler and fuel filter but is less air cleaner, fan, starter and muffler.

(Continued)

ENGINE AND MOUNTING (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
6	70085769	2	BRACKET, engine supporting, front
7	70012762	2	CAPSCREW, 7/8"NF x 3-1/4"
	70905347	2	LOCKWASHER, 7/8"
8	70089617	2	SHIM, spacing (1/32" thick. Use as req'd)
9	70651180	1	INSTALLATION KIT, engine (See PACKAGED PARTS for details)



CYLINDER BLOCK

T-15135

CYLINDER BLOCK

* Engines prior to serial No. 10-10498; also prior to 11-24134
 ** Engines serial No. 11-24134 and up

ITEM	PART NO.	QTY.	DESCRIPTION
		* **	
1	74321469	1 -	BLOCK ASSY. (Includes items 2 thru 5, 7 thru 10, 12 thru 16, 31 and hardware indented below) (Engines with original equipment oil pump)
	74321386	- 1	BLOCK ASSY. (Includes items 2 thru 5, 7 thru 10, 12 thru 16, 31 and hardware indented below) (Engines with ACULOP oil pump conversion kit 74321189) (Requires piston-cooling type main bearings)
	70910017	1 1	PLUG, expansion, 2-3/8" diam.
	70919134	3 3	PLUG, pipe, hex-hd., 1/8"NPT
	70920333	1 1	PLUG, pipe, hex-hd., 3/8"NPT
	70918887	1 1	PLUG, pipe, hex-socket, 3/8"NPT
	70920416	1 1	PLUG, pipe, hex-hd., 1/2"NPT
	70904223	2 2	PLUG, pipe, hex-socket, 1/2"NPT
	70918888	1 1	PLUG, pipe, hex-socket, 1"NPT
	70918851	2 2	PLUG, pipe, hex-socket, 3/4"NPT (Engines prior to #11-19309)
	70912415	2 2	COCK, drain, 1/4"NPT
2	74346100	1 1	BEARING, camshaft, front (standard size)
	74347416	1 1	BEARING, camshaft, front (.010" undersize)
3	74320591	2 2	BEARING, camshaft, intermediate (standard size)
	74347419	2 2	BEARING, camshaft, intermediate (.010" undersize)
4	74320592	1 1	BEARING, camshaft, rear (standard size)
	74347413	1 1	BEARING, camshaft, rear (.010" undersize)
5	-----	4 4	PIN, center main bearing cap (See CRANKSHAFT)
6	74354175	12 12	WASHER, main bearing capscrew
7	-----	2 -	STUD, front main bearing cap (Order Capscrew 74339037)
	74346191	2 -	NUT, 3/4"NF
	74339037	- 2	CAPSCREW, front main bearing cap (3/4"NC x 3-15/16")
8	74348056	1 1	CAP, front main bearing (See NOTE below)
9	74348244	4 4	CAP, intermediate main bearing (See NOTE below)
10	-----	4 -	STUD, center main bearing cap (Order Capscrew 74339038)
	74346322	4 -	NUT, 5/8"NF
	74339038	- 4	CAPSCREW, center main bearing cap (5/8"NC x 3-13/16")
11	74391160	4 4	WASHER, center main bearing capscrew
12	74359964	1 1	CAP, center main bearing (See NOTE below)
13	-----	10 -	STUD, rear and intermediate main bearing cap (Order Capscrew 74339036)
	74346191	10 -	NUT, 3/4"NF
	74339036	- 10	CAPSCREW, rear and intermediate main bearing cap (3/4"NC x 4-5/16")
14	74348246	1 1	CAP, rear main bearing (See NOTE below)
15	74336432	4 4	PIN, dowel, cylinder head

NOTE: Replacement bearing caps are semi-finished and must be line-bored after installing.

(Continued)

(Revised May 1978)

CYLINDER BLOCK (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
		* **	
16	74362338	2 2	PLUG, crankcase (1 less used after engine #11-19308)
17	74335534	1 1	PLUG, camshaft hole
18	70923815	1 1	□O-RING, camshaft hole plug
19	74337764	2 2	□GASKET, valve lifter cover
20	74335453	2 -	COVER, valve lifter (Engines prior to #10-13095)
	74354635	- 1	COVER, valve lifter, front (Engine #10-13095 and up) (Used prior to engine #11-19309)
	74359668	- 1	COVER, valve lifter, front (Engine #11-19309 and up)
	74354638	- 1	COVER, valve lifter, rear (Engine #10-13095 and up)
21	74335456	6 6	WASHER, valve lifter cover bolt } 3 less used engine
22	74335455	6 6	BOLT, valve lifter cover } #11-19309 and up
	74359683	- 3	BOLT, valve lifter cover, front (Engine #11-19309 and up)
23	74337972	12 12	□O-RING, cylinder sleeve (red)
23A	74359869	- 6	O-RING, cylinder sleeve (Engine #10-14931 and #11-16980 and up)(black with white markings)
23B	74359870	- 6	O-RING, cylinder sleeve (black with blue markings) (Used with SLEEVE 74061746)
24	74359581	6 6	SLEEVE, cylinder (Engines prior to #10-11022. If replacing entire set order 6 SLEEVE KITS 74359602 and GASKET KIT 74359410)
	74359582	- 6	SLEEVE, cylinder (Engine #10-11022 and #11-13980 and up. If for engines prior to #10-14931 or #11-16980 also order O-RING 74359586)
25	74348857	- -	SHIM (.005" thick) } Cylinder Sleeve.
	74348856	- -	SHIM (.008" thick) } Use as required when
	74348859	- -	SHIM (.010" thick) } block is re-machined
	74348858	- -	SHIM (.015" thick) } to correct sinking of
	74348900	- -	SHIM (.020" thick) } sleeve
26	-----	1 1	NUT, cap, oil pressure regulating valve (Engines prior to #10-11205. Order item 27)
27	74389058	1 1	SCREW, oil pressure regulating valve
	70910847	1 1	NUT, jam, 3/4"NF
28	74113897	2 2	□GASKET, regulating valve nut (Engines prior to #10-11205)
29	74660358	1 1	SPRING, oil pressure regulating valve
30	74500230	1 1	PISTON, oil pressure regulating valve
31	74347465	1 1	INSERT, oil pressure regulating valve seat
32	74347061	1 1	RESTRICTOR, oil passage
33	74335777	2 2	CAPSCREW, crankcase pad (3/8"NC x 3/4", Nylok)
34	74339604	- 1	PLATE, cover, turbocharger oil drain hole } Engine
	70918683	- 2	CAPSCREW, 1/2"NC x 1-1/8" } #10-11293
	70904208	- 2	LOCKWASHER, 1/2" } and up.
35	74336436	- 1	□GASKET, cover plate } Not used on units with turbo.
			<u>NOTE:</u> Items listed below are furnished only with service replacement cylinder block and are not original equipment.
36	74335369	1 1	PLATE, cover, oil gallery hole, upper
	70903638	4 4	CAPSCREW, 1/2"NC x 1-1/4", Nylok
	70904208	4 4	LOCKWASHER, 1/2"

(Continued)

(Revised May 1978)

CYLINDER BLOCK (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
37	70923718	* ** 2 2	O-RING, oil gallery hole cover plates
38	74359104	1 1	PLATE, cover, oil gallery hole, lower
	70920333	1 1	PLUG, pipe, hex-hd., 3/8"NPT
	70919230	1 1	CAPSCREW, 1/2"NC x 1-3/8"
39	74506946	2 2	STUD
	70904208	3 3	LOCKWASHER, 1/2"
	70910195	2 2	NUT, 1/2"NF

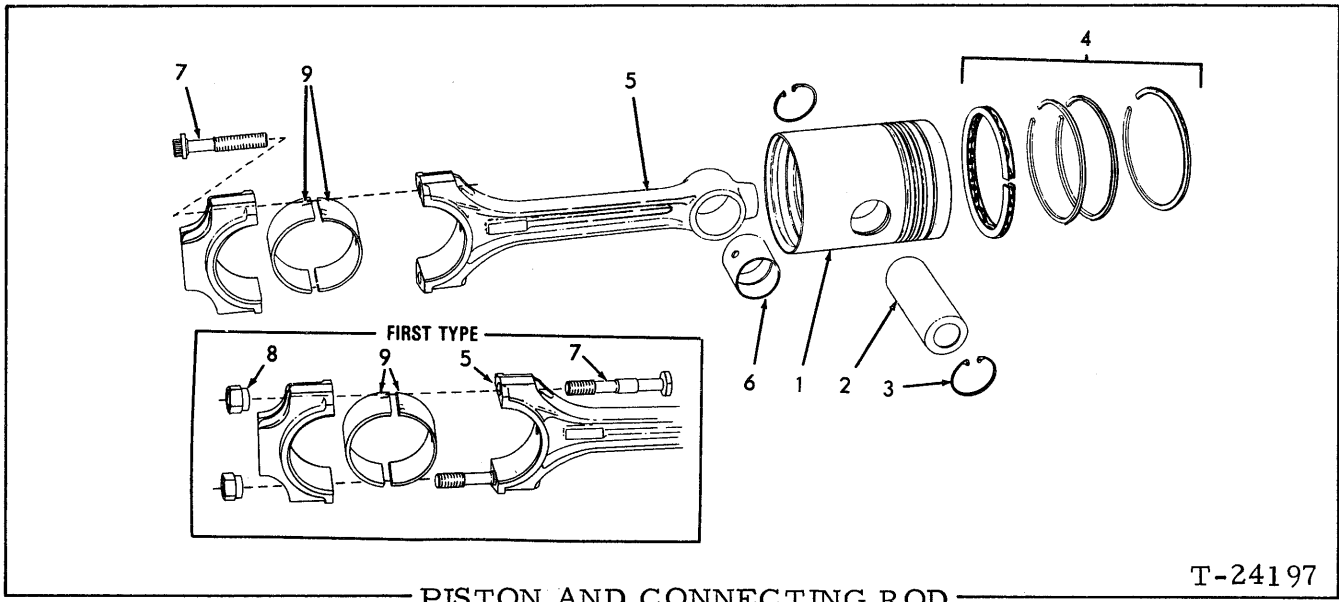
(Added May 1978)

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(Added May 1978)

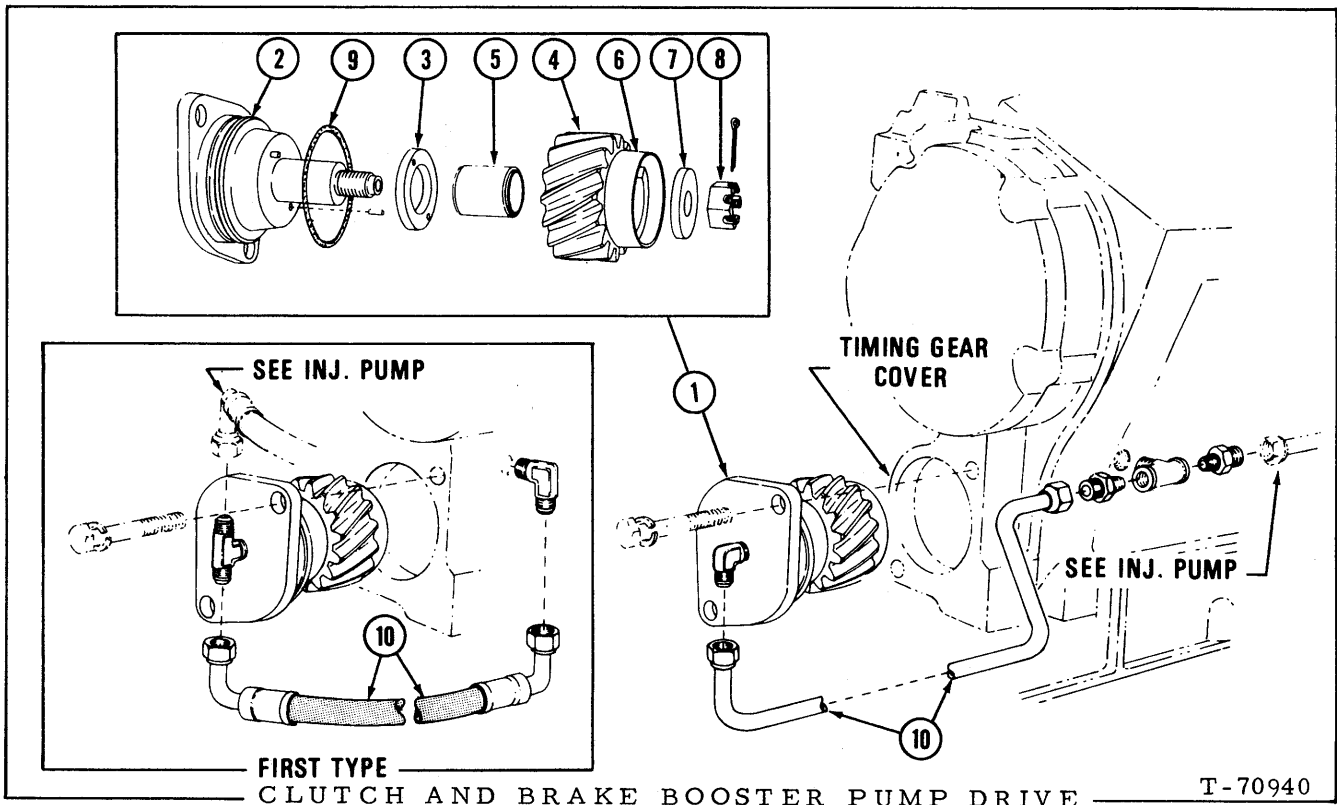


PISTON AND CONNECTING ROD

T-24197

ITEM	PART NO.	QTY.	DESCRIPTION
1	74062033	6	PISTON (Includes items 2,3 and 4)(Engines prior to #11-18999, excluding #11-18862 thru 11-18934)
	74062032	6	PISTON (Includes items 2,3 and 4)(Engines #11-18999 and up, including #11-18862 thru 11-18934)
2	74337395	6	PIN, piston (Engines prior to #11-18999, excluding #11-18862 thru 11-18934 with piston stamped 4358745)
	74354778	6	PIN, piston (Engines #11-18999 and up, including #11-18862 thru 11-18934 with piston stamped 4359360 or 4321547)
3	74255465	12	RETAINER, piston pin
4	74061969	6	RING SET (Engines prior to #11-18999, excluding #11-18862 thru 11-18934 with piston stamped 4358745)
	74061968	6	RING SET (Engines #11-18999 and up, including #11-18862 thru 11-18934 with piston stamped 4359360 or 4321547)
5	-----	6	ROD ASSY., connecting (Includes items 6 thru 8) (Engines prior to #10-14981; also #11-19497)(Order 74359220)
	74359220	6	ROD ASSY., connecting (Includes items 6 and 7) (Engines #10-14981 and up; also 11-19497 and up)
6	74339017	6	BUSHING
7	74354179	12	BOLT (Engines prior to #10-13343)
	74354787	12	BOLT (Engines #10-13343 thru 10-14980; also #11-13980 thru 11-19496)
	74359222	12	CAPSCREW (Engines #10-14981 and up; also #11-19497 and up)
8	74354748	12	NUT (Engines prior to #10-14981; also #11-19497)
9	74337701	12	BEARING (Standard size)
	74337702	12	BEARING (.010" undersize)
	74337703	12	BEARING (.020" undersize)
	74337704	12	BEARING (.030" undersize)
	74337705	12	BEARING (.040" undersize)

(Revised May 1978)



CLUTCH AND BRAKE BOOSTER PUMP DRIVE

T-70940

USAGE: Graders serial No. 780 and up

ITEM	PART NO.	QTY.	DESCRIPTION		
1	-----	-	DRIVE ASSY. (Not serviced separately)		
	-----	2	CAPSCREW (See TIMING GEAR HOUSING section)		
2	74335694	1	SHAFT ASSY. (Includes PINS indented below)		
	70919242	2	PIN, roll, 1/8" x 3/8" (dowel)		
3	74376598	1	WASHER, thrust		
4	74339750	1	GEAR ASSY. (Includes items 5 and 6)		
5	74335654	1	BUSHING, drive gear		
6	74338161	1	SLEEVE, drive gear		
7	74335655	1	WASHER, gear retaining		
8	70919115	1	NUT, gear retaining (1/2"NF, left hand thread)		
	70900801	1	PIN, cotter, 3/32" x 3/4"		
9	70923814	1	□ O-RING, drive sealing		
10	74339752	1	HOSE, lubricating (See HOSE PARTS)	} Graders prior to unit No. 6589	
	70919173	2	ELBOW, flare type, 1/4" tube, 1/8"NPT male (1 less used prior to grader serial No.1209)		
	70919773	1	TEE, flare type (Graders prior to serial No. 1209)		
	74359679	1	TUBE (Includes NUTS and SLEEVES)		} Graders unit No. 6589 and up
	70920790	1	ELBOW, Imperial, 3/8" tube, 1/8"PT		
70920992	1	TEE, automotive, 1/8"NPT			
70921372	1	CONNECTOR, Imperial, 3/8" tube, 1/8"NPT male			

(Revised July 1972)

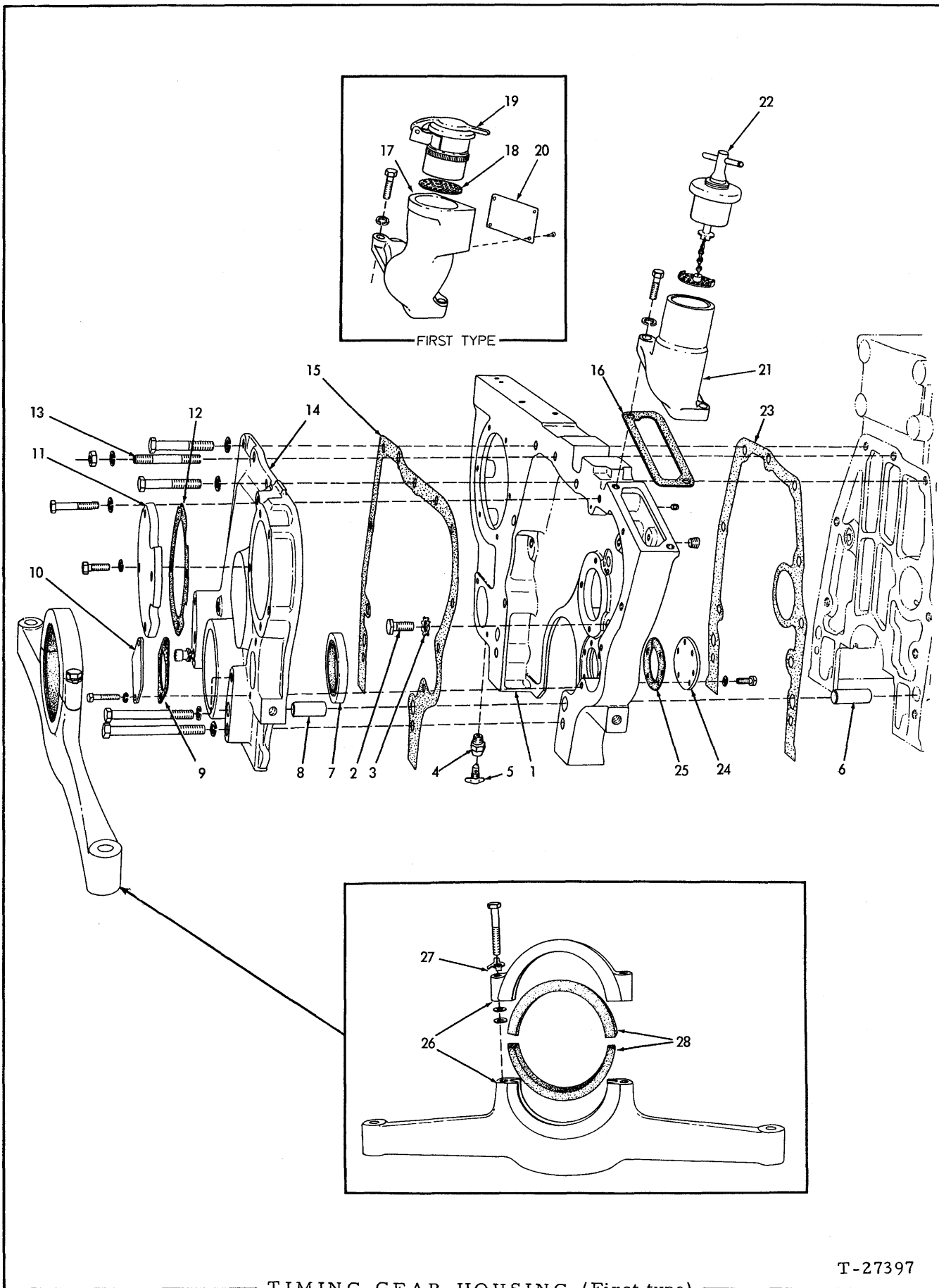
TIMING GEAR HOUSING

USAGE: Graders prior to serial No. 1209

ITEM	PART NO.	QTY.	DESCRIPTION	
1	74359940	1	HOUSING, timing gear	
	70919134	1	PLUG, pipe, hex-hd., 1/8"NPT	
	70917970	2	PLUG, pipe, hex-socket, 1/2"NPT	
	70621457	3	SETSCREW, hex-socket, Nylok, 5/16"NC x 3/8" (For plugging holes in pump mounting face on graders #780 and up)	
2	74004054	3	CAPSCREW, 1/2"NC x 1-1/16"	
3	74253490	3	LOCKWASHER	
4	70201671	1	COCK, drain, 3/8"NPT (Includes item 5)	
5	70209359	1	STEM, drain cock	
6	74346246	2	PIN, dowel, timing gear housing	
7	74028922	1	SEAL, oil, crankshaft	
8	74348107	2	PIN, dowel, timing gear cover	
9	74335712	1	<input type="checkbox"/> GASKET, cover plate	} Graders prior to #780
10	74335711	1	PLATE, timing gear cover	
11	74348310	1	PLATE, cover, injection pump driving gear	
	70916269	4	CAPSCREW, 3/8"NC x 7/8"	
	70904206	4	LOCKWASHER, 3/8"	
12	74349011	1	<input type="checkbox"/> GASKET, cover plate	
13	74335371	1	STUD, timing gear housing	
	70904208	1	LOCKWASHER, 1/2"	
	70910195	1	NUT, 1/2"NF	
14	74337281	1	COVER ASSEMBLY, timing gear housing (Includes item 8)	
	70915969	3	CAPSCREW, 1/2"NC x 3"	
	70916319	1	CAPSCREW, 1/2"NC x 3-1/2"	
	70921299	1	CAPSCREW, hex-socket-hd., 1/2"NC x 4"	
	70919232	1	CAPSCREW, 1/2"NC x 4-3/4"	
	70919287	3	CAPSCREW, 3/8"NC x 1-7/8"	
	70916274	2	CAPSCREW, 3/8"NC x 2-1/4"	
	70904208	6	LOCKWASHER, 1/2"	
	70904206	5	LOCKWASHER, 3/8"	
15	74348126	1	<input type="checkbox"/> GASKET, timing gear housing cover	
16	74347120	1	<input type="checkbox"/> GASKET, oil filler hole cover	
17	-----	1	FILLER ASSEMBLY, oil (Includes item 18 thru 20) (Order items 21 and 22)	} Used prior to engine #10-10769
	70919225	2	CAPSCREW, 3/8"NC x 1-3/8"	
	70904206	2	LOCKWASHER, 3/8"	
18	74335022	1	STRAINER, oil filler	
19	74366461	1	CAP ASSEMBLY, oil filler (Serviced only as a unit)	
20	74379141	1	PLATE, oil data	
	70904516	4	SCREW, drive, #6 x 1/4"	
21	74338678	1	PIPE, oil filler	} Effective with engine #10-10769
	70919225	2	CAPSCREW, 3/8"NC x 1-3/8"	
	70904206	2	LOCKWASHER, 3/8"	
22	74354449	1	CLOSURE, oil filler	

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(Revised May 1978)

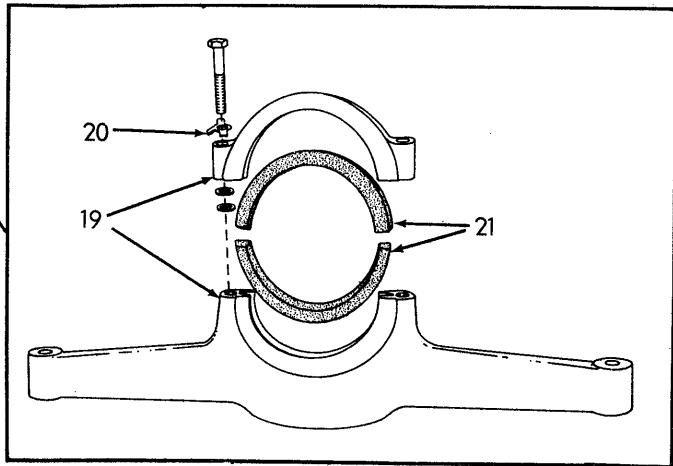
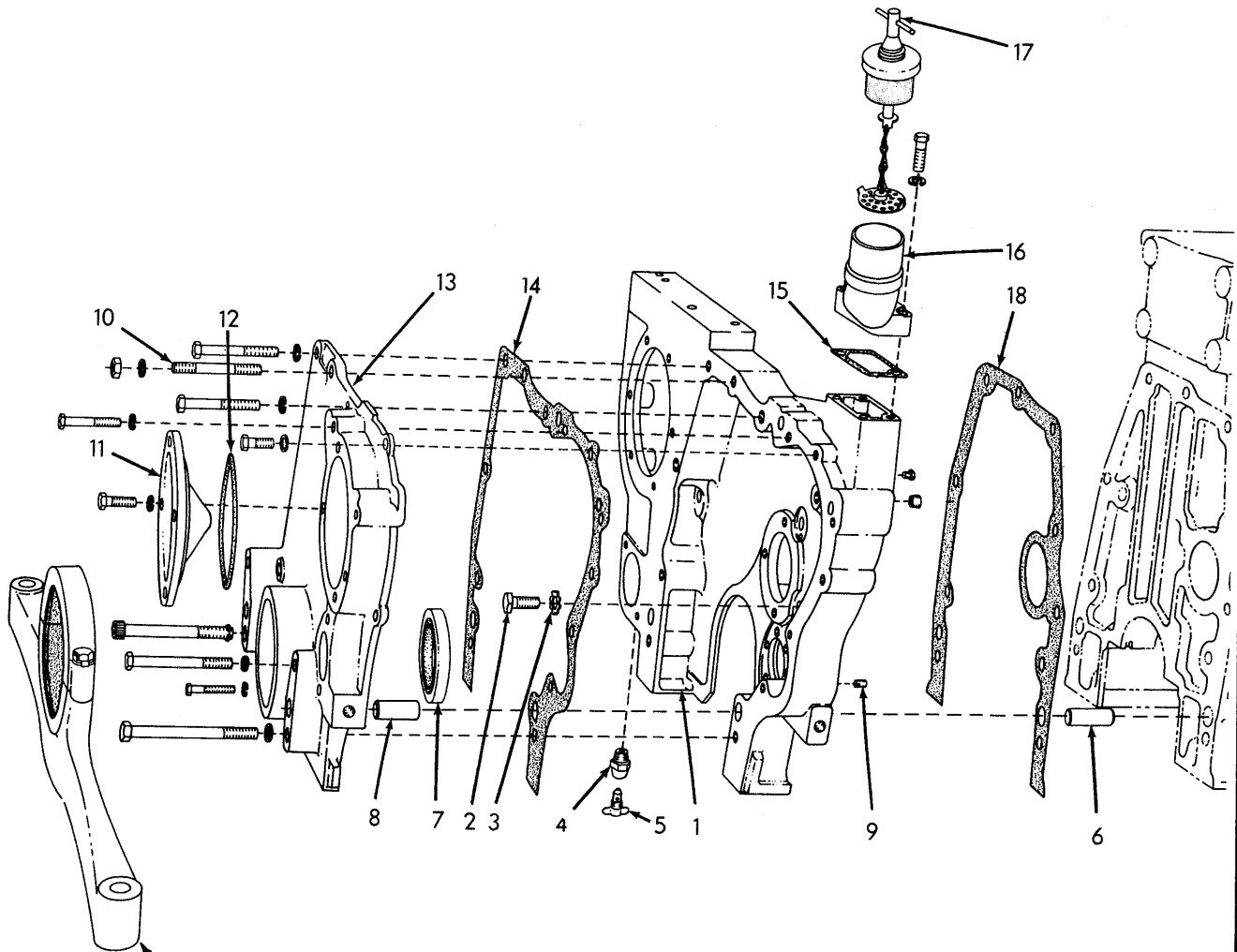


TIMING GEAR HOUSING (First type)

T-27397

TIMING GEAR HOUSING (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
23	74348136	1	□ GASKET, timing gear housing
24	74336346	1	COVER, timing gear housing (Graders prior to #780)
	70916277	6	CAPSCREW, 5/16"NC x 5/8"
	70917330	6	WASHER, plain, copper, 5/16"
25	74336345	1	□ GASKET, housing cover (Graders prior to #780)
26	74335069	1	BRACKET, engine mounting (Includes cap)
	74254891	2	CAPSCREW, 1/2"NC x 2-1/2"
	70916009	10	WASHER, plain (1/32" thick. Use as req'd)
27	74335550	2	LOCKWASHER
28	74336491	2	LINER, engine mounting bracket



TIMING GEAR HOUSING (Second type)

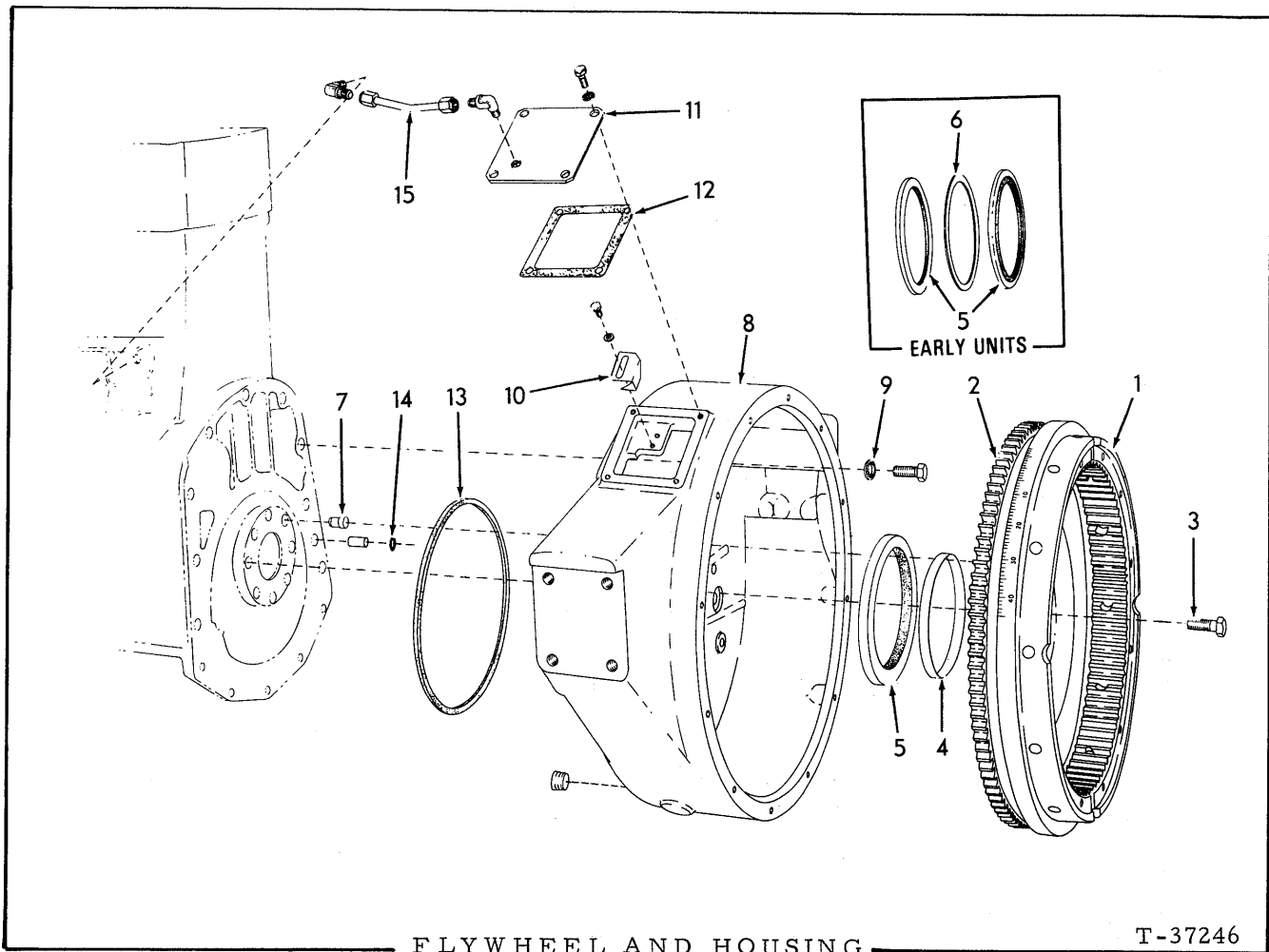
T-71993

TIMING GEAR HOUSING

USAGE: Graders serial No. 1209 and up

ITEM	PART NO.	QTY.	DESCRIPTION
1	74339656	1	HOUSING, timing gear
	70919134	1	PLUG, pipe, hex-hd., 1/8"NPT
	70917970	2	PLUG, pipe, hex-socket, 1/2"NPT
2	74004054	3	CAPSCREW, 1/2"NC x 1-1/16"
3	74253490	3	LOCKWASHER
4	70201671	1	COCK, drain, 3/8"NPT (Includes item 5)
5	70209359	1	STEM, drain cock
6	74346246	2	PIN, dowel, timing gear housing
7	74036340	1	SEAL, oil, crankshaft
8	74348107	2	PIN, dowel, timing gear cover
9	70621457	3	SETSCREW, hex-socket, Nylok, 5/16"NC x 3/8" (For plugging holes in pump mounting face of timing gear housing)
10	74335371	1	STUD, timing gear housing
	70904208	1	LOCKWASHER, 1/2"
	70910195	1	NUT, 1/2"NF
11	74354306	1	PLATE, cover, injection pump driving gear
	70916271	4	CAPSCREW, 3/8"NC x 1"
	70904206	4	LOCKWASHER, 3/8"
12	70923820	1	O-RING, cover plate
13	74321630	1	COVER ASSEMBLY, timing gear housing
	70915969	3	CAPSCREW, 1/2"NC x 3"
	70916319	1	CAPSCREW, 1/2"NC x 3-1/2"
	70921299	1	CAPSCREW, hex-socket-hd., 1/2"NC x 4"
	70919232	1	CAPSCREW, 1/2"NC x 4-3/4"
	70919287	2	CAPSCREW, 3/8"NC x 1-7/8"
	70916274	2	CAPSCREW, 3/8"NC x 2-1/4"
	70904208	6	LOCKWASHER, 1/2"
	70904206	6	LOCKWASHER, 3/8"
	70916271	2	CAPSCREW, 3/8"NC x 1"
14	74354163	1	O GASKET, timing gear housing cover
15	74354304	1	GASKET, oil filler hole cover
16	74354289	1	PIPE, oil filler
	70919226	2	CAPSCREW, 3/8"NC x 1-5/8"
	70904206	2	LOCKWASHER, 3/8"
17	74354449	1	CLOSURE, oil filler
18	74348136	1	O GASKET, timing gear housing
19	74335069	1	BRACKET, engine mounting (Includes cap)
	74254891	2	CAPSCREW, 1/2"NC x 2-1/2"
	70916009	10	WASHER, plain (1/32" thick. Use as req'd)
20	74335550	2	LOCKWASHER
21	74336491	2	LINER, engine mounting bracket

(Revised May 1981)



ITEM	PART NO.	QTY.	DESCRIPTION
1	74338542	1	FLYWHEEL ASSY. (Includes item 2)
2	74304907	1	GEAR, ring
3	----- 74035530	6 6	BOLT, hex. -hd. (Order CAPSCREW 74035530) CAPSCREW, 12-pt.
4	74029556	1	SLEEVE KIT, wear (Effective on 10000 engine #10-142 thru #10-14732 and #10-14956 and up. Effective on 11000 engines #11-14388 thru #11-15367 and #11-18384 and up)
5	74029502	1	SEAL KIT, crankshaft rear end (If for 10000 engines prior to #10-14257 and #10-14733 thru #10-14955 or 11000 engines prior to #11-14388 and #11-15366 thru #11-18383 also order 1 WEAR SLEEVE KIT 74029556)
6	74027439	1	SPACER, oil seal (Installed between SEALS)(Used on 10000 engines #10-14257 thru #10-14732 on 11000 engines #11-14388 thru #11-15367. Order 1 SEAL KIT 74029502)
7	74500300	2	DOWEL, flywheel to crankshaft (Engines prior #10-14972 and #11-19292)

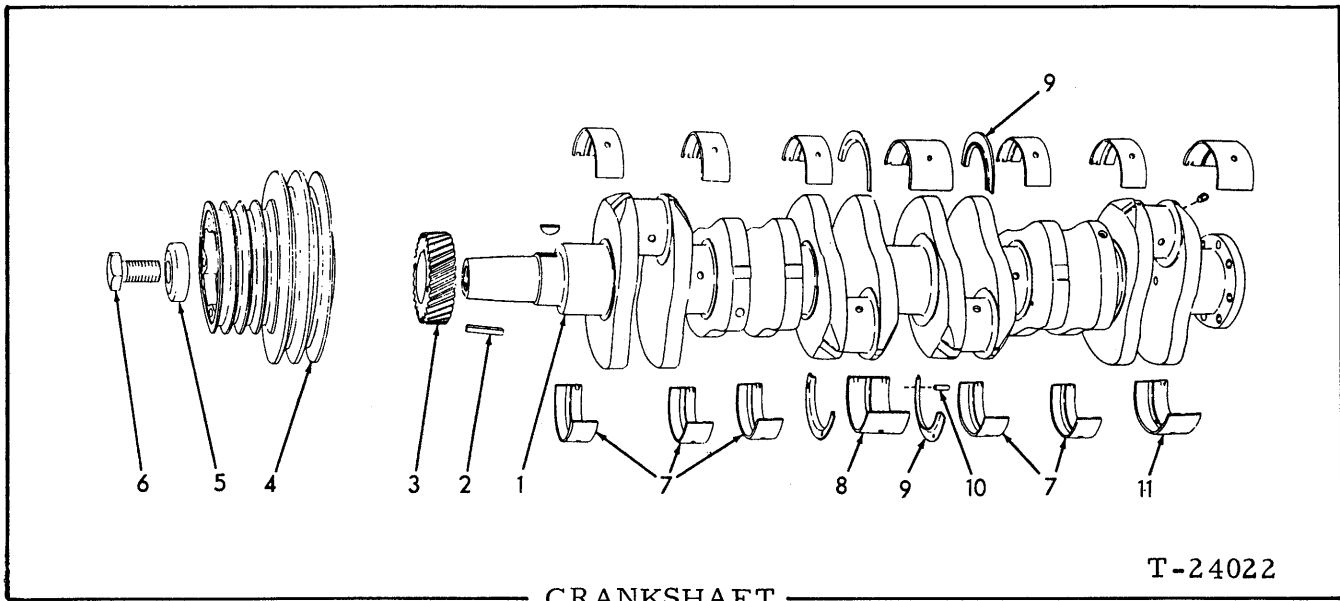
(Continued)

(Revised May 1978)

FLYWHEEL AND HOUSING (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
8	74337661	1	HOUSING, flywheel
	70918851	1	PLUG, pipe, hex-socket, 3/4" NPT
	70917021	2	PIN, dowel, 1/2" x 1"
	70916311	9	CAPSCREW, 1/2" NC x 1-1/4"
9	74376749	9	WASHER, sealing (Used prior to engine #10-14214 and #11-14324)
10	74338762	1	POINTER, timing
	70916284	2	CAPSCREW, 1/4" NC x 1/2"
	70904204	2	LOCKWASHER, 1/4"
11	74358840	1	COVER, timing hole (Used prior to engine #10-13095)
	74354634	1	COVER, timing hole (Effective with engine #10-13095 and #11-13980)
	70916282	4	CAPSCREW, 1/4" NC x 7/8"
	70904204	4	LOCKWASHER, 1/4"
12	74336676	1	□ GASKET, timing hole cover
13	74336897	1	□ RING, sealing, flywheel housing to crankcase
14	70923376	2	□ O-RING, flywheel housing dowel pin
15	74354636	1	TUBE ASSY., vent (Includes NUTS and SLEEVES indented below)(Effective with engine #10-13095 and #11-13980)
	70919005	2	ELBOW, Imperial, 3/8" tube, 3/8" NPT
	70917810	2	NUT, Imperial, 3/8" tube
	70917807	2	SLEEVE, Imperial, 3/8" tube

(Revised May 1978)



CRANKSHAFT

T-24022

ITEM	PART NO.	QTY.	DESCRIPTION
1	74321965	1	CRANKSHAFT ASSY. (Includes Plugs indented below)
	70917673	6	PLUG, pipe, hex-socket, 1/8"NPT (Early units)
2	74003490	1	KEY, crankshaft pulley
3	74359278	1	GEAR, crankshaft
	70905127	1	KEY, "B" woodruff, 5/16" x 1"
4	74347899	1	PULLEY, crankshaft (Has 3 grooves for PTO drive) (Used prior to engine #10-11522)
	74359882	1	PULLEY, crankshaft (Has 4 grooves for PTO drive) (Effective with engine #10-11522)
5	74371503	1	WASHER, crankshaft pulley bolt
6	74393587	1	CAPSCREW, crankshaft pulley
7	74322058	10	BEARING, front and intermediate main (Standard)
	74322117	10	BEARING, front and intermediate main (.010" undersize)
	74322118	10	BEARING, front and intermediate main (.020" undersize)
	74322119	10	BEARING, front and intermediate main (.030" undersize)
	74322120	10	BEARING, front and intermediate main (.040" undersize)
8	74321349	2	BEARING, center main (Standard size)
	74321392	2	BEARING, center main (.010" undersize)
	74321393	2	BEARING, center main (.020" undersize)
	74321394	2	BEARING, center main (.030" undersize)
	74321395	2	BEARING, center main (.040" undersize)

See
item
12

NOTE: Items 7 and 8 are drilled for use in piston cooled replacement Cylinder Block Assy.

(Continued)

CRANKSHAFT (Continued)

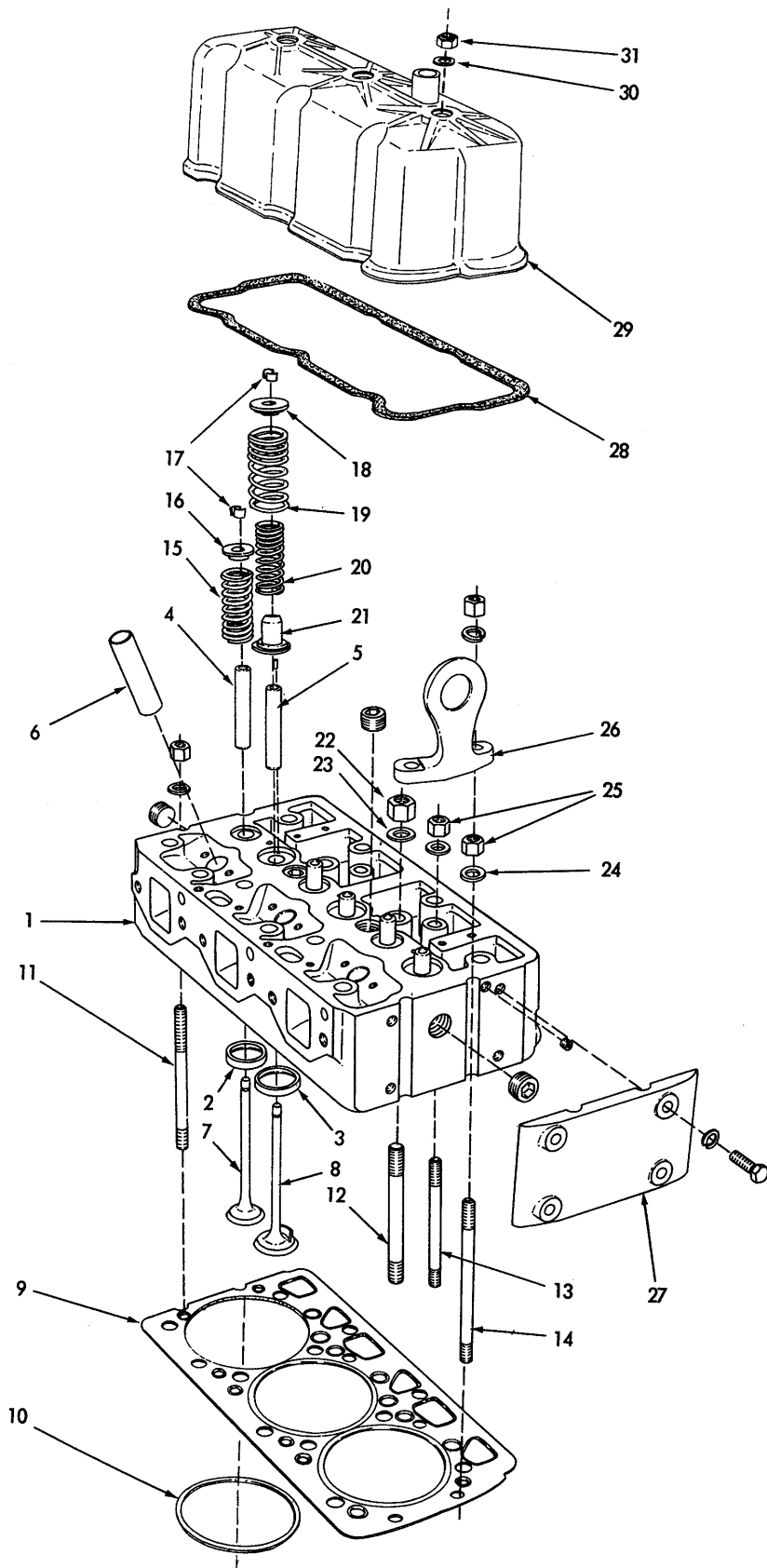
ITEM	PART NO.	QTY.	DESCRIPTION
9	74337687	2	FLANGE, thrust, center main, lower (Standard size)
	74337688	2	FLANGE, thrust, center main, lower (.005" oversize)
	74337689	2	FLANGE, thrust, center main, lower (.010" oversize)
	74337690	2	FLANGE, thrust, center main, lower (.015" oversize)
10	74250898	4	PIN, dowel, thrust flange
11	74337698	2	BEARING, rear main (Standard size)
	74337699	2	BEARING, rear main (.010" undersize)
	74337700	2	BEARING, rear main (.020" undersize)
	74337715	2	BEARING, rear main (.030" undersize)
	74337716	2	BEARING, rear main (.040" undersize)
12	74322208	1	KIT, bearing (standard)
	74322209	1	KIT, bearing (.010" undersize)
	74322210	1	KIT, bearing (.020" undersize)
	74322211	1	KIT, bearing (.030" undersize)
	74322212	1	KIT, bearing (.040" undersize)

} See item 13

NOTE: Each KIT listed above consist of MAIN BEARINGS for complete crankshaft overhaul.

13	74061821	1	KIT, flange (standard size)
	74061822	1	KIT, flange (.005" undersize)
	74061823	1	KIT, flange (.010" undersize)
	74061824	1	KIT, flange (.015" undersize)

} Kit contains four each of items 9 and 10



CYLINDER HEAD

T-24202

CYLINDER HEAD

USAGE: Engines prior to #11-20247

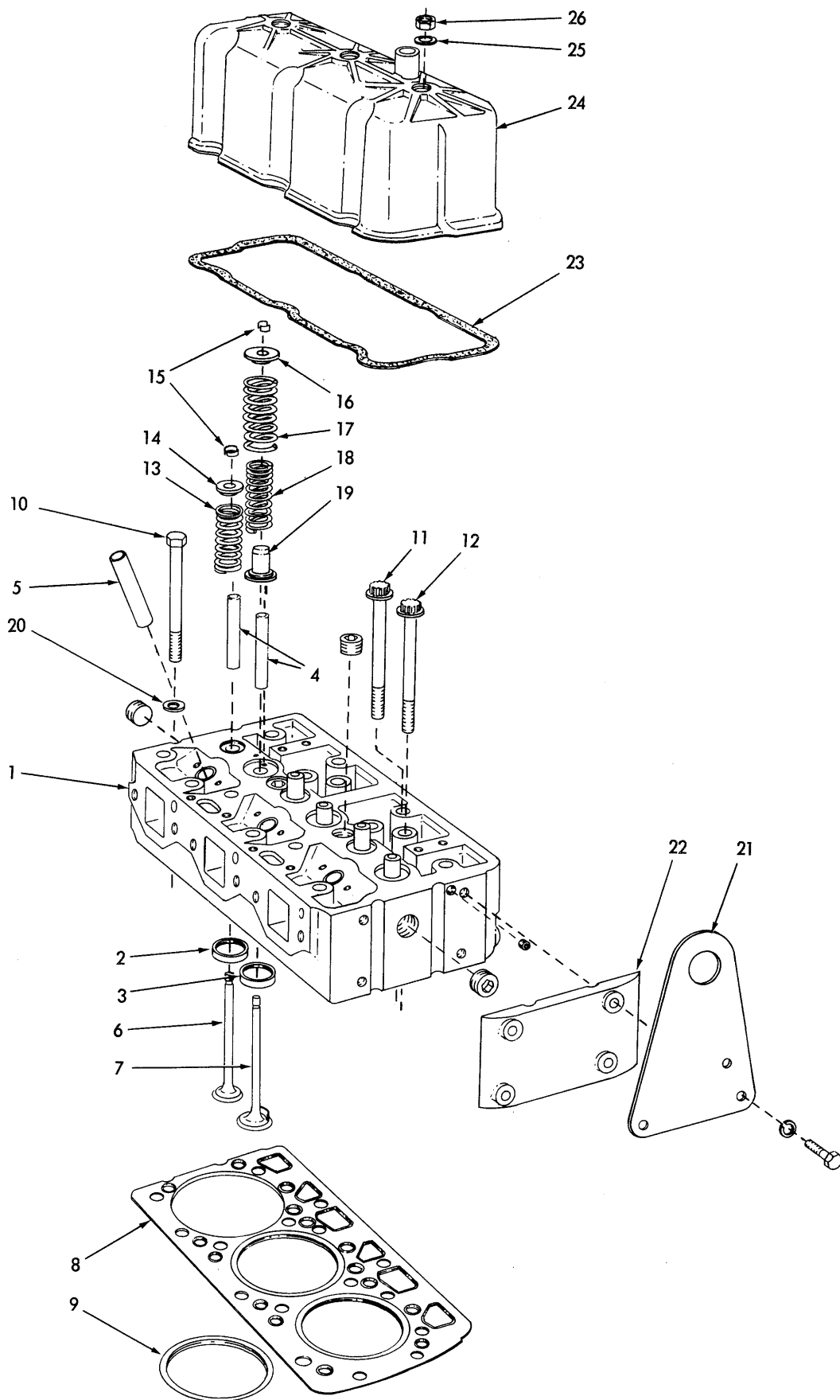
ITEM	PART NO.	QTY.	DESCRIPTION
1	-----	2	HEAD ASSY. cylinder (Includes items 2 thru 6 and hardware indented below)(Original equipment, 45° valve INSERT. Order HEAD ASSY. 74359196, 3 VALVES 74359116 and 3 VALVES 74359117)
	74359196	2	HEAD ASSY., cylinder (Includes items 2 thru 6 and hardware indented below)(Service replacement. 30° valve INSERT)
	70917673	4	PLUG, pipe, hex-socket, 1/8"NPT
	70920340	8	PLUG, pipe, hex-socket, 3/4"NPT
	70917560	6	PIN, dowel, 3/16" x 3/8" (intake valve locator)
2	74336419	6	INSERT, exhaust valve seat (45°-standard size) } 5/16" thick. Used prior to engine #10-11912
	74336602	6	
	74339547	6	INSERT, exhaust valve seat (45°-standard size) } 13/32" thick. Eff/w engine #10-11912; also #11-13980
	74339625	6	
	74359114	6	INSERT, exhaust valve seat (30°-standard size) } For service replacement hd. assy. 74359196
	74359115	6	
3	74336418	6	INSERT, intake valve seat (45°-standard size) } 5/16"thick. Used prior to engine #10-11912
	74336601	6	
	74339546	6	INSERT, intake valve seat (45°-standard size) } 13/32"thick. Eff/w engine #10-11912; also #11-13980
	74339624	6	
	74359112	6	INSERT, intake valve seat (30°-standard size) } For service replacement head assy. 74359196
	74359113	6	
4	74359192	6	GUIDE, valve stem, exhaust
5	74359193	6	GUIDE, valve stem, intake
6	74336157	6	SLEEVE, injection nozzle
7	74359277	6	VALVE, exhaust (45°)
	74359117	6	VALVE, exhaust (30°)
8	74336127	6	VALVE, intake (45°)
	74359116	6	VALVE, intake (30°)
9	74359029	1	□ GASKET ASSY., cylinder head, front } Each includes item 10
	74359030	1	
10	74358984	6	GASKET, fire ring (cylinder sealing)(Effective with engine #1013216 and #11-13980)
11	74339499	4	STUD, cylinder head (1/2" x 7")
12	74339505	24	STUD, cylinder head (5/8" x 6-1/2")
13	74339498	4	STUD, cylinder head (1/2" x 6-1/8")

(Continued)

CYLINDER HEAD (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
14	74339497	2	STUD, cylinder head (1/2" x 7-3/8")
15	74336131	6	SPRING, exhaust valve
16	74343799	6	RETAINER, exhaust valve spring
17	74376497	24	LOCK, valve spring retainer (half only)
18	74336153	6	RETAINER, intake valve spring
19	74336129	6	SPRING, intake valve, outer
20	74336130	6	SPRING, intake valve, inner
21	74336758	6	LOCATOR, intake valve
22	74388202	20	NUT, cylinder head stud (5/8"NF)
	74354407	4	NUT, cylinder head stud (5/8"NF, Nylok)(For end studs only)
23	74354490	24	WASHER, cylinder head nut (For 5/8" stud)
24	74372864	14	WASHER, cylinder head nut (For 1/2" stud)
25	74388205	14	NUT, cylinder head stud (1/2"NF)
26	74347619	2	EYE, engine lifting
27	74336178	2	PLATE, end
	70916191	8	CAPSCREW 7/16"NC x 1-1/2"
	70904207	8	LOCKWASHER, 7/16"
28	74336148	2	□ GASKET, rocker cover
29	74336146	2	COVER, rocker (Engines prior to #10-14946 and #11-17259)
	74357732	1	COVER, rocker, rear
	74359264	1	COVER, rocker, front
			} Effective with engine #10-14946 and #11-17259
30	74376749	6	WASHER, sealing, rocker cover nut
31	74375937	6	NUT, rocker cover

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CYLINDER HEAD

T-77627

32B

(Added May 1978)

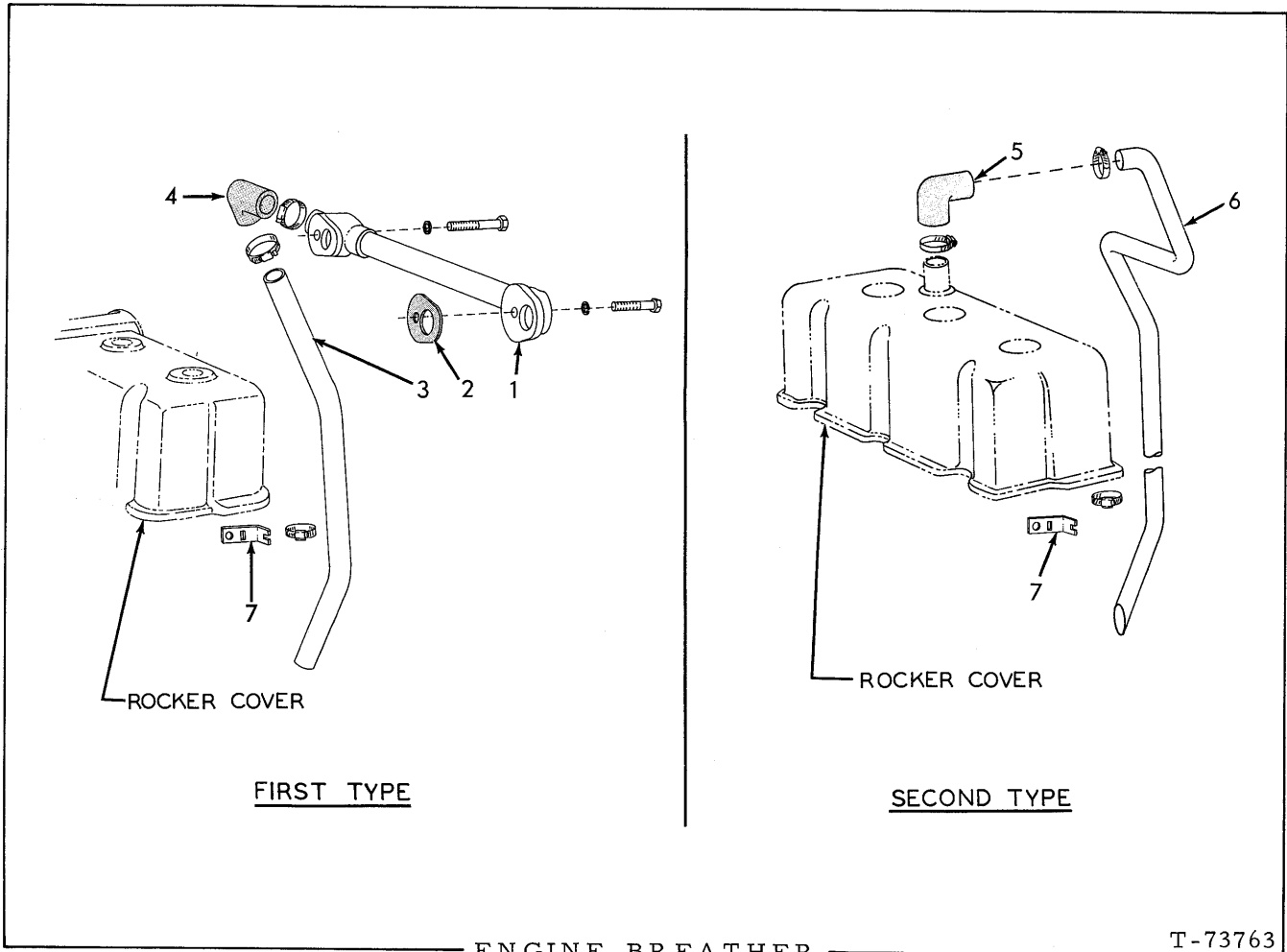
CYLINDER HEAD

ITEM	PART NO.	QTY.	DESCRIPTION
1	74320689	2	HEAD ASSY. (Includes items 2 thru 5 and hardware indented below) (For first replacement prior to engine #11-20247 also order 6 CAPSCREW 70915987, 3 SEAT 74320654, 3 ROTATOR 74320655, 3 VALVE 74321157, 3 VALVE 74321372 and 12 WASHER 74371107.)
	70917673	4	PLUG, pipe, hex-socket, 1/8" NPT
	70928879	4	PLUG, expansion, 1" diam.
2	74359646	6	INSERT, exhaust (30° - standard size)
	74359115	6	INSERT, exhaust (30° - .005" oversize)
3	74359112	6	INSERT, intake (30° - standard size)
	74359113	6	INSERT, intake (30° -.005 oversize)
4	74359192	12	GUIDE
5	74336157	6	SLEEVE
6	74321372	6	VALVE (30°)
7	74321157	6	VALVE (30°)
8	74321437	1	GASKET, cylinder head, front
	74321438	1	GASKET, cylinder head, rear
9	-----	6	GASKET, firing ring (Not serviced separately. Integral with head gasket)
10	74514400	1	CAPSCREW (1/2" x 5-3/8")
11	74320613	24	CAPSCREW (5/8" x 5-9/16")
12	74320614	9	CAPSCREW (1/2" x 5-5/16")
13	74336131	6	SPRING
14	74020408	6	RETAINER, exhaust valve spring
15	74376497	24	LOCK (half only)
16	74320655	6	ROTATOR
17	74336129	6	SPRING, outer
18	74336130	6	SPRING, inner
19	74320654	6	SEAT
20	74372864	1	WASHER
21	74320616	2	EYE
22	74336178	2	PLATE
	70916191	8	CAPSCREW, 7/16" NC x 1-1/2"
	70904207	8	LOCKWASHER, 7/16"
23	74336148	2	□ GASKET
24	74357732	1	COVER, rear
	74359264	1	COVER, front
25	74376749	6	WASHER
26	74375937	6	NUT

(Added May 1978)

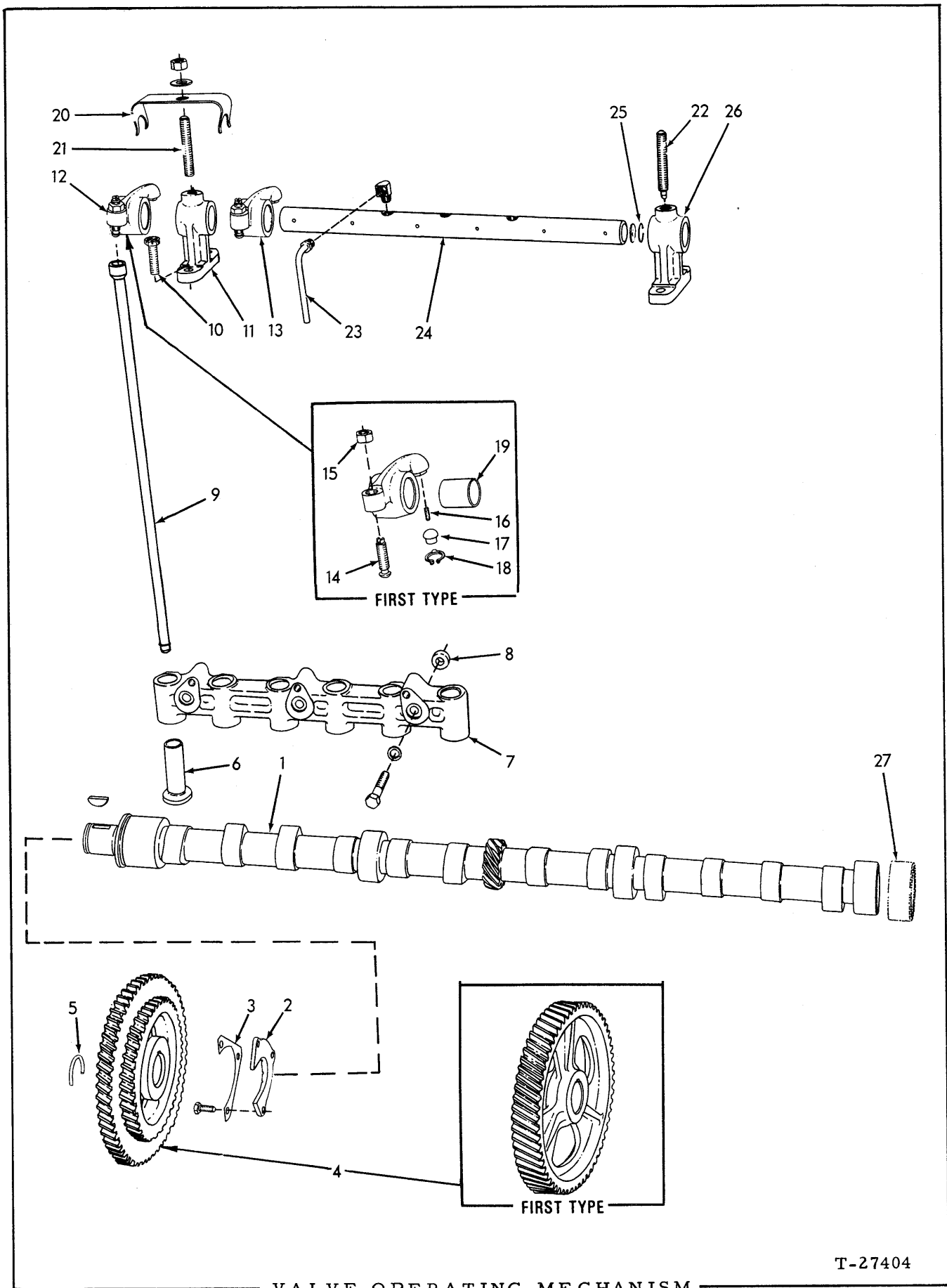
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(Added May 1978)



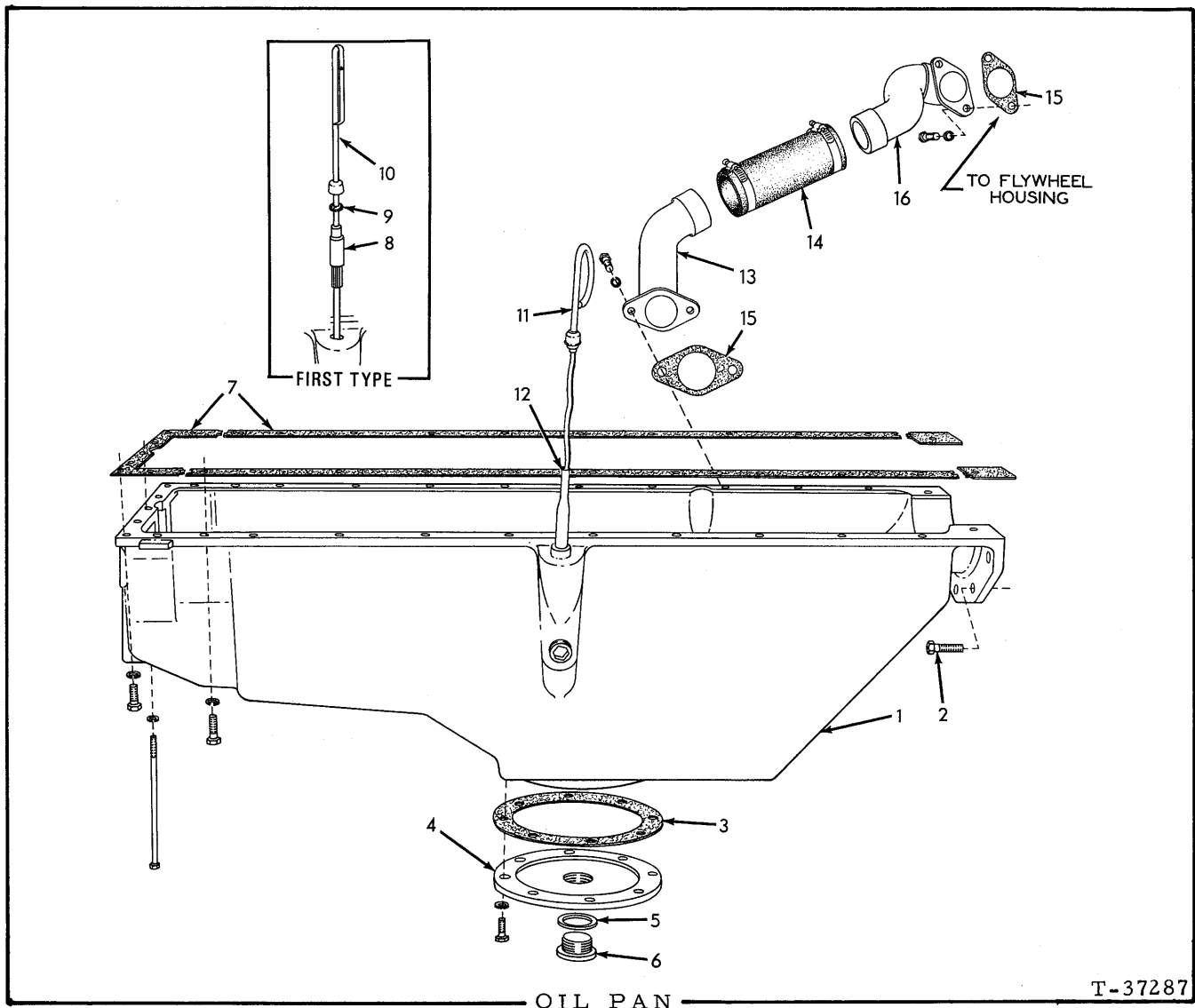
* Engines prior to serial No. 10-14946 and 11-17259
 ** Engines serial No. 10-14946 and up; also 11-17259 and up

ITEM	PART NO.	QTY.	DESCRIPTION
		* **	
1	74338477	1	TUBE, upper section
	70916273	1	CAPSCREW, 3/8"NC x 1-3/4"
	70915990	1	CAPSCREW, 3/8"NC x 2-3/4"
	70904206	2	LOCKWASHER, 3/8"
2	74348133	2	□GASKET, upper breather tube
3	70624047	1	TUBE, lower section
4	74504771	1	ELBOW, breather tube (rubber)
	70921912	2	CLAMP, hose, 1-1/16" to 2" diam.
5	74357735	- 1	ELBOW, upper tube, front cover (rubber)
	74253977	- 1	CLAMP, hose, 1-3/8" diam.
	74253978	- 1	CLAMP, hose, 1-5/8" diam.
6	70662872	- 1	TUBE, lower section
7	70084895	1 1	CLIP, supporting, lower tube
	70921911	1 1	CLAMP, hose, 11/16" to 1-1/4" diam.



VALVE OPERATING MECHANISM

ITEM	PART NO.	QTY.	DESCRIPTION
1	74321678	1	CAMSHAFT
	70905126	1	KEY, #5 woodruff, 1/4" x 1"
2	74349257	1	COLLAR, camshaft thrust
	70916277	3	CAPSCREW, 5/16"NC x 5/8"
3	74025391	1	PLATE, capscrew locking
4	74359279	1	GEAR, camshaft (Graders prior to #1209)
	74321380	1	
5	74346307	1	RING, snap, gear retaining
6	74338299	12	LIFTER, valve
7	74347511	2	BRACKET, valve lifter } Engines prior to #10-14971 CAPSCREW, 3/8"NC x 1-7/8" } and 11-19282 70919287 6 70904206 6 LOCKWASHER, 3/8" 74359701 2 BRACKET, valve lifter } Effective with engines 74255393 6 BOLT, 3/8"NC x 1-3/4" } #10-14971 and 11-19282
	74347832	4	
	8	4	
	9	4	
10	74506946	12	STUD, rocker shaft bracket (Used prior to engine #10-14722 and #11-15290) 70904206 12 LOCKWASHER, 3/8" 74348440 12 NUT, heat-treated, 3/8"NF 74255723 12 BOLT, rocker shaft bracket (self-locking)(Effective with engine #10-14722 and #11-15290)
	74336143	4	
	11	4	
	12	6	
13	6	6	ARM ASSY., rocker, intake valve } Each includes items ARM ASSY., rocker, exhaust valve } 14 and 15
14	74336646	12	SCREW, valve lash adjustment
15	74348440	12	NUT, valve lash adjustment screw
16	74364422	12	WICK, oiling, rocker ball
17	74379305	12	BALL, rocker arm
18	74385480	12	RING, snap, rocker arm ball
19	74660369	12	BUSHING, rocker arm
20	74338143	6	CLIP, spring, rocker arm retaining 70910919 6 WASHER, plain, SAE std., 7/16" 70910986 6 NUT, 7/16"NF
	74348129	4	
	21	4	
22	74348130	2	SCREW, rocker shaft retaining (3" long, dog-pt.)
23	74349157	2	TUBE ASSY., rocker shaft overflow (Includes nut) 70913039 2 ELBOW, inverted flare, 90°, 1/4" tube, 1/8"NPT male
	74336145	2	
24	74336145	2	SHAFT ASSY., rocker arm (Includes 70910002 PLUGS and item 25) 70910002 4 PLUG, expansion, 3/4" diam.
	74254363	4	
25	74254363	4	RING, snap, rocker shaft
26	74336142	2	BRACKET, rocker shaft, center
27	-----	-	BEARING, camshaft (See CYLINDER BLOCK)



USAGE: Original equipment

ITEM PART NO. QTY. DESCRIPTION

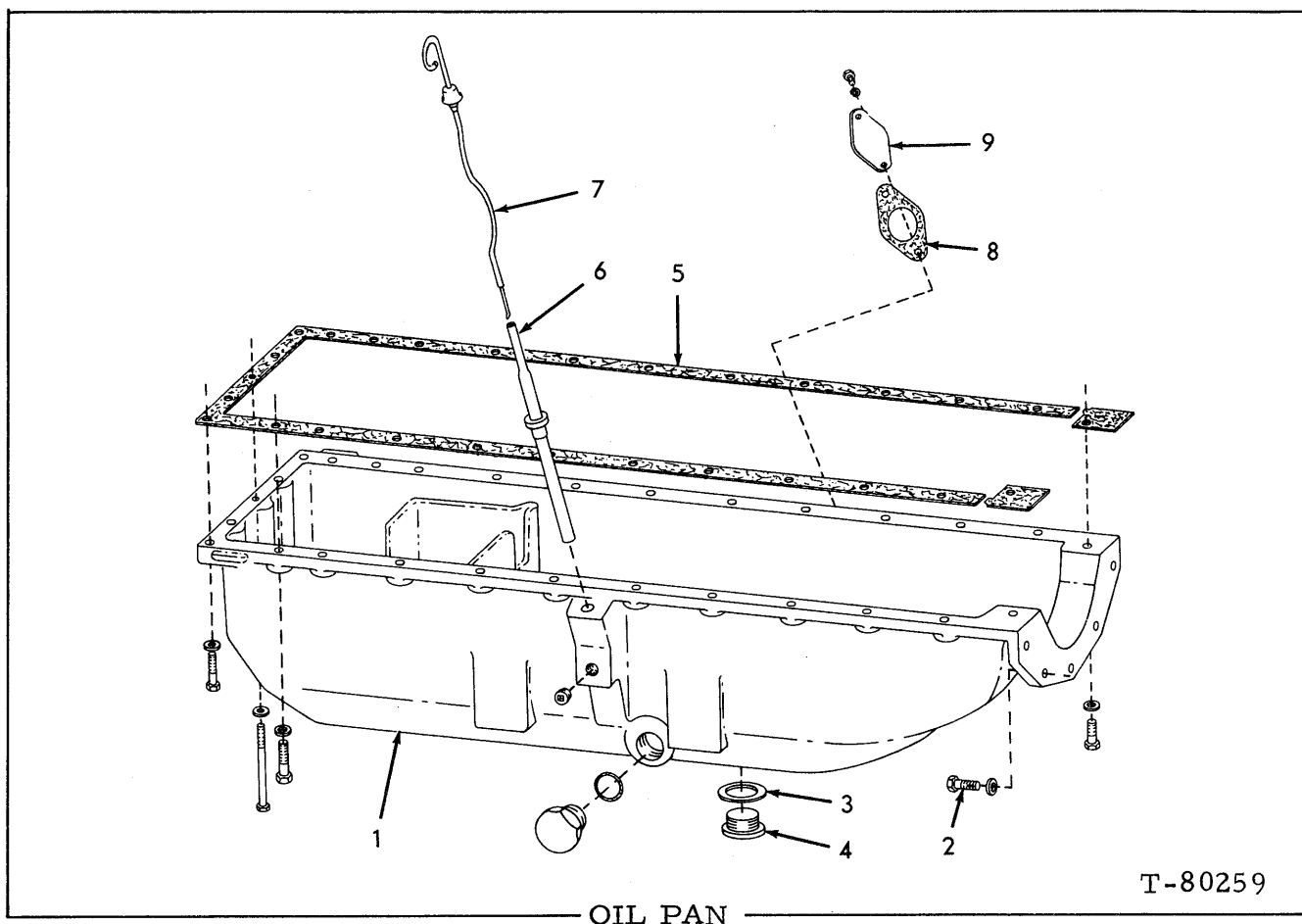
1	74337733	1	PAN, oil
	70918851	1	PLUG, pipe, hex-socket, 3/4"NPT
	70919224	24	CAPSCREW, 3/8"NC x 1-1/8"
	70914392	2	CAPSCREW, 5/16"NC x 1"
	70919292	3	CAPSCREW, 5/16"NC x 1-3/4"
	70913544	29	WASHER
	70912369	5	WASHER
2	74255916	5	CAPSCREW, Nylon strip, 3/8"NC x 1"
3	74371289	1	□ GASKET, oil screen cover
4	74371255	1	PLATE, oil screen hole
	70919224	8	CAPSCREW, 3/8"NC x 1-1/8"
	70904206	8	LOCKWASHER, 3/8"
5	70667252	1	□ GASKET, oil drain plug
6	70035250	1	PLUG, oil drain
7	74347543	1	GASKET SET, oil pan (5 pieces)

(Continued)

(Revised May 1978)

OIL PAN (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION	
8	74349037	1	ADAPTER, oil level gauge	} Engines prior to #10-14657
9	74506607	1	SEAL, oil level gauge	
10	74335154	1	GAUGE, oil level	
11	74354654	1	GAUGE, oil level	} Effective with engine #10-14657 and #11-13980
12	74354661	1	ADAPTER, oil level gauge	
13	70630889	1	ELBOW, oil drain, lower	
	70916271	2	CAPSCREW, 3/8"NC x 1"	
	70904206	2	LOCKWASHER, 3/8"	
14	70634378	1	HOSE, oil drain elbow	
	70921914	2	CLAMP, hose, 2-5/16" to 3-1/4" diam.	
15	70621516	2	GASKET, oil drain elbow	
16	70631528	1	ELBOW, oil drain, upper	
	70916271	2	CAPSCREW, 3/8"NC x 1"	
	70904206	2	LOCKWASHER, 3/8"	



USAGE: Engines with oil pump conversion kit 74321189.

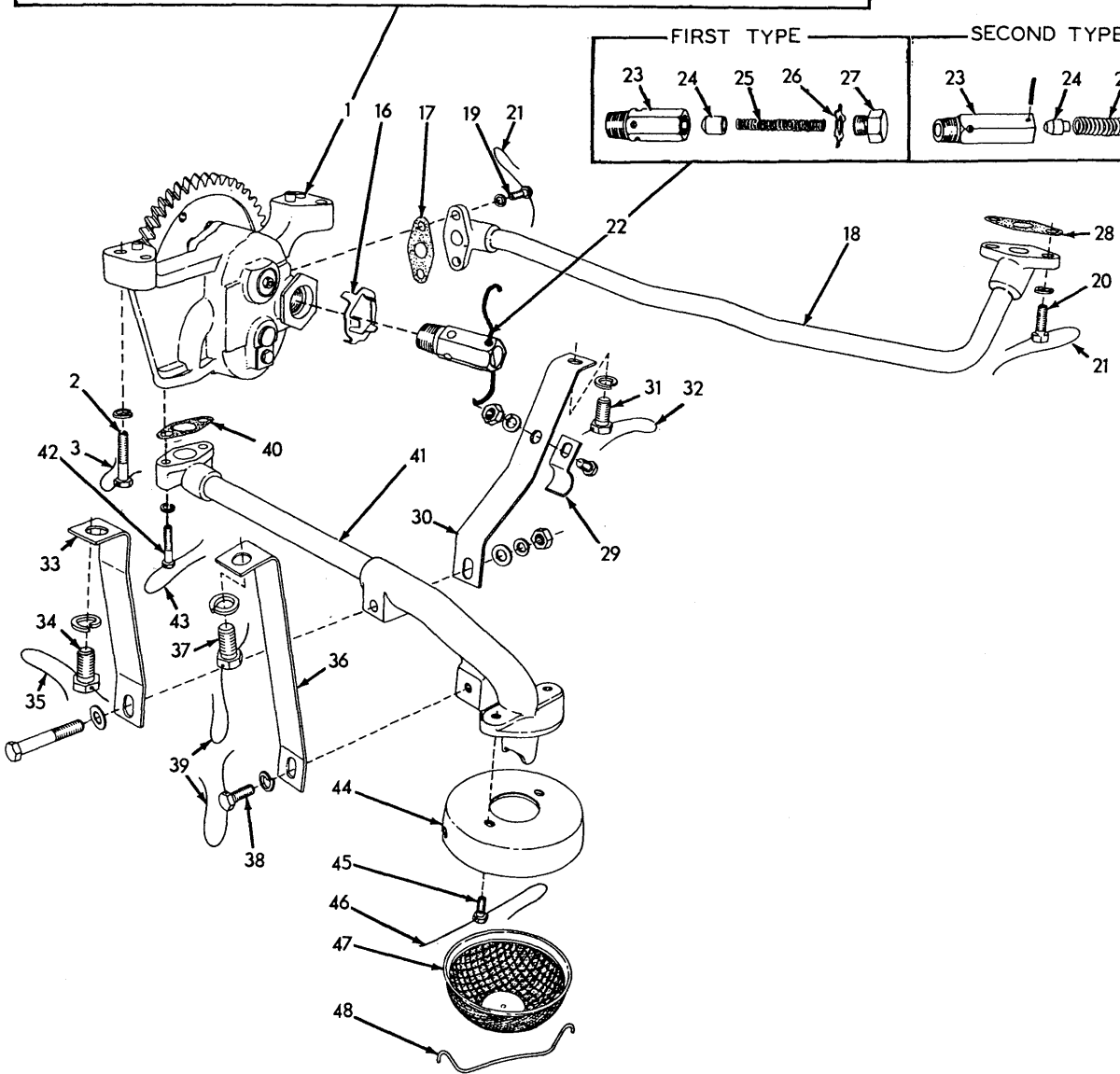
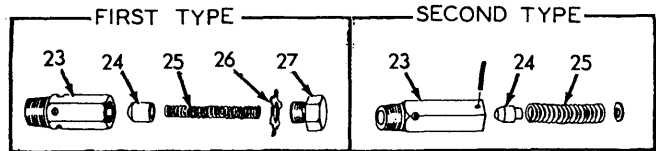
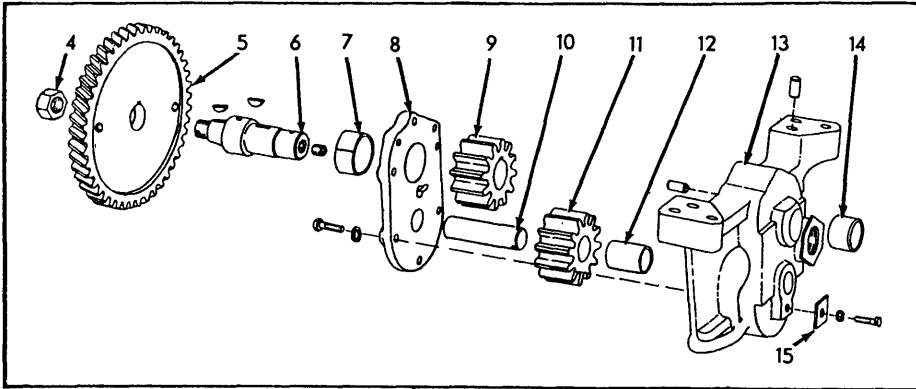
ITEM	PART NO.	QTY.	DESCRIPTION
1	74321954	1	PAN, oil
	70904223	2	PLUG, pipe, sq.-socket, 1/2" NPT
	70921204	1	PLUG, hex-hd., 1-1/6"-12 str.-thd. (Includes O-RING)
	70921206	1	O-RING
	70916279	4	CAPSCREW, 5/16" NC x 1-1/2"
	70919784	1	CAPSCREW, 5/16" NC x 4"
	70912369	5	WASHER
	70914847	22	CAPSCREW, 3/8" NC x 1-1/2"
	70916271	2	CAPSCREW, 3/8" NC x 1"
	70913544	24	WASHER
2	74255916	5	CAPSCREW, nylon strip, 3/8" NC x 1"
	70913544	5	WASHER
3	70667252	1	GASKET
4	70035250	1	PLUG, drain
5	74347543	1	GASKET SET (5 pieces)
6	74354656	1	ADAPTER
7	74320898	1	GAUGE
8	74337740	1	GASKET
9	74337741	1	PLATE
	70916271	2	CAPSCREW, 3/8" NC x 1"
	70904206	2	LOCKWASHER, 3/8"

} Not original equipment

(Added May 1978)

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(Added May 1978)



OIL PUMP

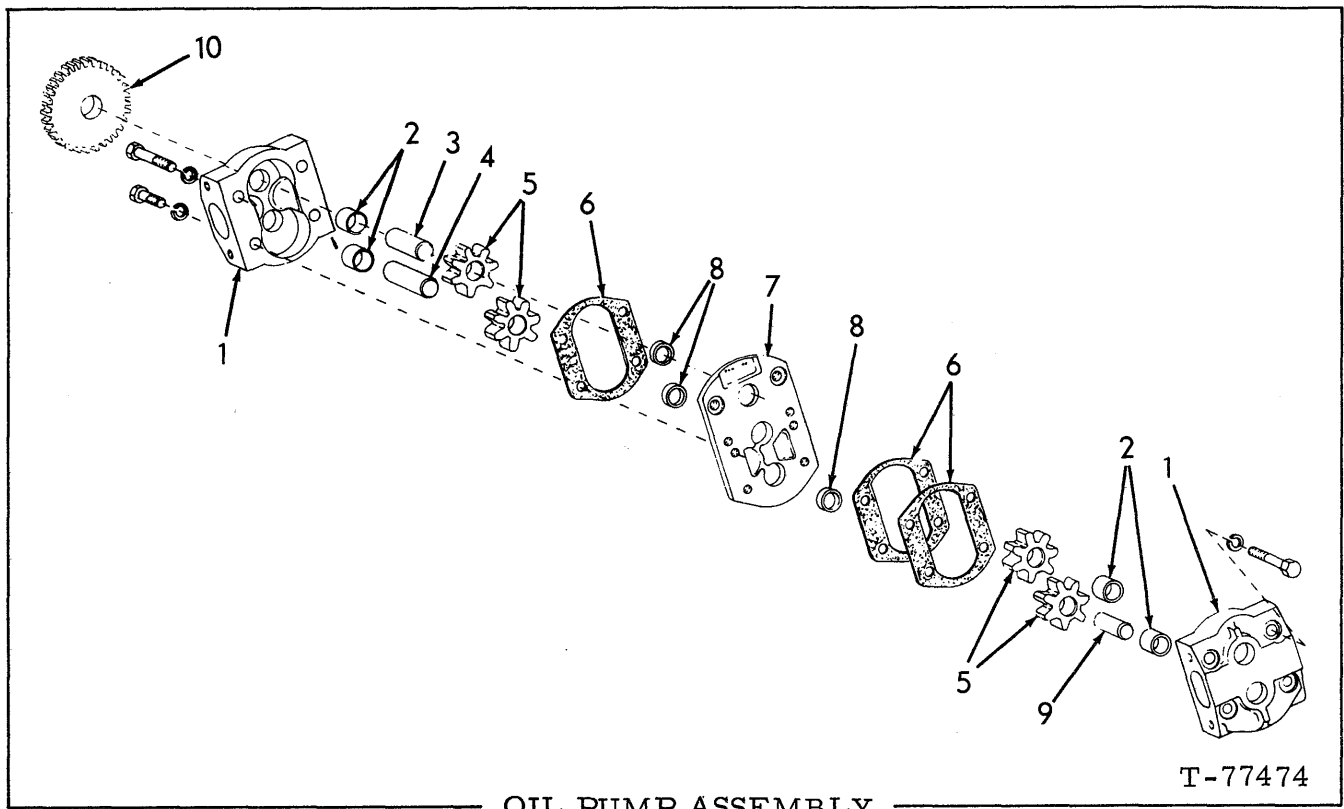
ITEM	PART NO.	QTY.	DESCRIPTION
1	74359035	1	PUMP ASSY. (Consists of items 4 thru 15)(Order 1 OIL PUMP KIT 74321189, 1 GAUGE 74320898, 1 ADAPTER 74354656 and 1 ELBOW 70697843) (See PACKAGED PARTS)(Once the OIL PUMP KIT has been installed, the design on this page becomes VOID and service thereafter is governed by the ACULOP design)
2	74348692	4	CAPSCREW, drilled-hd., 3/8"NC x 1-3/4"
	70904206	4	LOCKWASHER, 3/8"
3	74509035	2	WIRE, locking, #18 x 10"
4	74254977	1	NUT, gear retaining
5	74337047	1	GEAR, driving
6	74337576	1	SHAFT, upper
	70910224	2	KEY, #6 woodruff, 5/32" x 5/8"
	70917673	1	PLUG, pipe, hex-socket, 1/8"NPT
7	74337584	1	BUSHING, pump cover
8	74337582	1	COVER ASSY. (Includes item 7)
	70916282	6	CAPSCREW, 1/4"NC x 7/8"
	70904204	6	LOCKWASHER, 1/4"
9	74337577	1	GEAR, upper
10	74337581	1	SHAFT, lower
11	74337578	1	GEAR ASSY., lower (Includes item 12)
12	74337580	1	BUSHING, lower gear
13	74337573	1	HOUSING ASSY., (Includes item 14 and dowel PINS indented below)
	70917554	1	PIN, dowel, 1/4" x 1/2"
	70917546	2	PIN, dowel, 3/8" x 5/8"
14	74337575	1	BUSHING, pump housing
15	74348020	1	RETAINER, lower shaft
	74349378	1	CAPSCREW, 1/4"NC x 1/2"
	70904204	1	LOCKWASHER, 1/4"
16	74347938	1	LOCK, pressure relief valve body
17	74348215	1	□GASKET, discharge pipe to pump
18	74335387	1	PIPE, discharge
19	74320227	2	CAPSCREW, drilled-hd., 5/16"NC x 7/8"
	70904205	2	LOCKWASHER, 5/16"
20	74346483	2	CAPSCREW, drilled-hd., 3/8"NC x 1-1/4"
	70904206	2	LOCKWASHER, 3/8"
21	74509035	2	WIRE, locking, #18 x 10"
22	74320597	1	VALVE ASSY., press. relief (Includes items 23 thru 25)
	74374018	1	LOCKWIRE
23	-----	1	BODY, pressure relief valve
24	-----	1	PISTON, pressure relief valve
25	-----	1	SPRING, pressure relief valve (Used prior to engine #10-13097. Order item 22)
	74354568	1	SPRING, pressure relief valve (Effective with engine #10-13097 and 11-13980)
	74359310	1	WASHER, plain
	70916001	1	PIN, spring, 3/16" x 1"
26	-----	1	WASHER, locking, relief valve cap
27	-----	1	CAP, relief valve

} Not serviced separately
 } Engines prior to #10-13097. Order item 22.

(Continued)

OIL PUMP (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
28	74346169	1	□GASKET, discharge pipe to crankcase
29	74347572	1	CLAMP, discharge pipe
	70915408	1	CAPSCREW, 3/8"NC x 3/4"
	70904206	1	LOCKWASHER, 3/8"
	70910324	1	NUT, 3/8"NC
30	74335144	1	BRACKET, suction pipe supporting, right
31	74375812	1	CAPSCREW, drilled-hd., 1/2"NC x 1"
	70904208	1	LOCKWASHER, 1/2"
32	74348691	1	WIRE, locking, #18 x 6"
33	74335145	1	BRACKET, suction pipe supporting, left front
34	74375812	1	CAPSCREW, drilled-hd., 1/2"NC x 1"
	70904208	1	LOCKWASHER, 1/2"
35	74348691	1	WIRE, locking, #18 x 6"
36	74335143	1	BRACKET, suction pipe supporting, left rear
37	74375812	1	CAPSCREW, upper
	70904208	1	LOCKWASHER, 1/2"
38	74369110	1	CAPSCREW, lower
	70904206	1	LOCKWASHER, 3/8"
39	74348691	2	WIRE, locking, #18 x 6"
40	74348218	1	□GASKET, suction pipe to pressure pump
41	74335390	1	PIPE, suction
42	74349375	2	CAPSCREW, drilled-hd., 5/16"NC x 1-5/8"
	70904205	2	LOCKWASHER, 5/16"
43	74509035	1	WIRE, locking, #18 x 10"
	70916274	1	CAPSCREW, 3/8"NC x 2-1/4"
	70912597	2	WASHER, plain
	70904206	1	LOCKWASHER, 3/8"
	70910324	1	NUT, 3/8"NC
44	74348684	1	COVER, oil screen
45	74374129	2	CAPSCREW
46	74509035	1	WIRE, locking, #18 x 10"
47	74348683	1	SCREEN, oil
48	74348682	1	RETAINER, oil screen

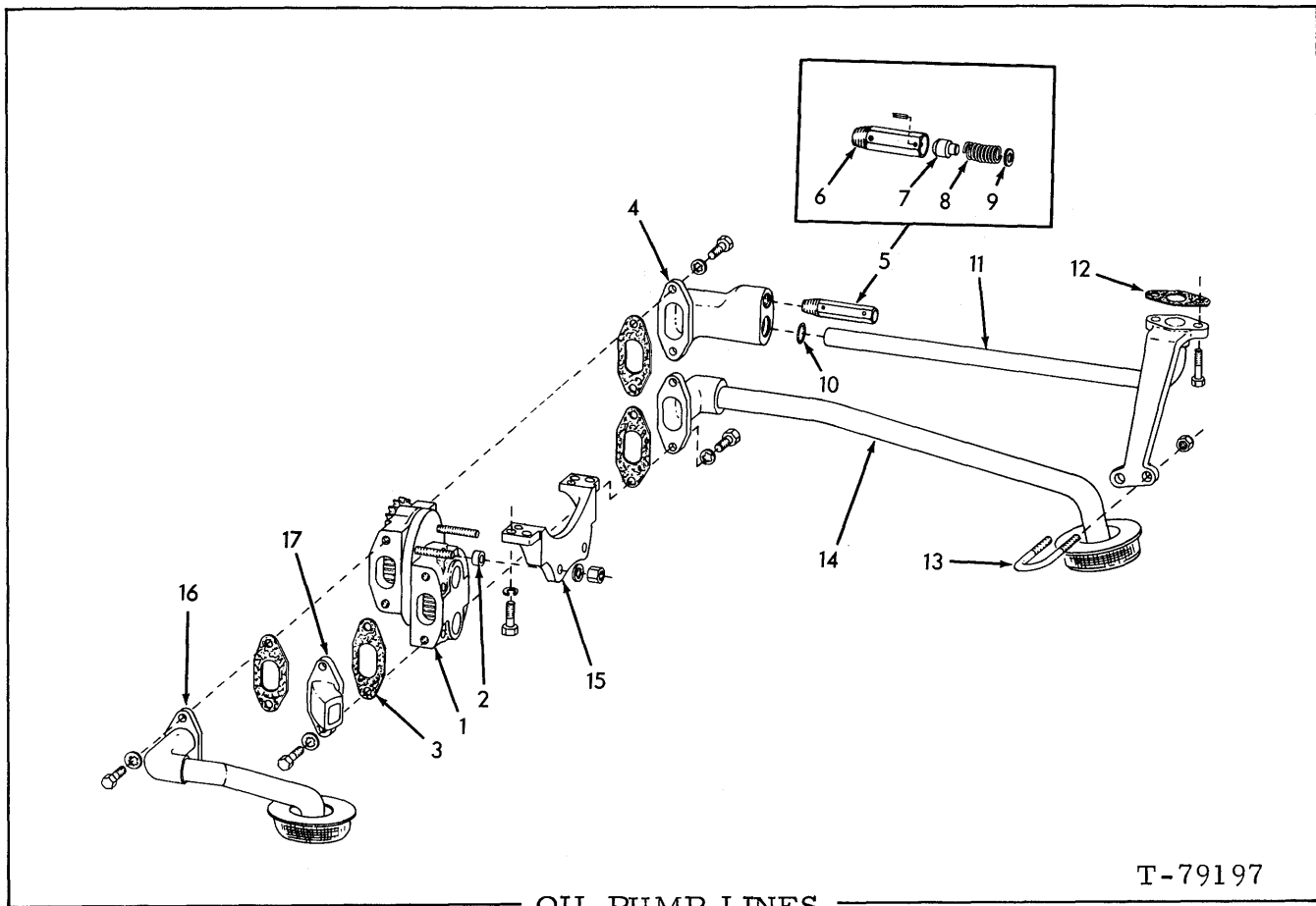


OIL PUMP ASSEMBLY

USAGE: Engines with oil pump conversion kit. See page 40B

ITEM	PART NO.	QTY.	DESCRIPTION
-	74321399	1	PUMP ASSY. (Includes items 1, 3, 4, 5, 6, 7, 9 and 10)
1	74395087	2	BODY ASSY. (Includes item 2)
	70920594	6	CAPSCREW, 7/16" NF x 2"
	70930705	2	CAPSCREW, 7/16" NF x 3"
	70907863	8	LOCKWASHER, 7/16"
2	74393346	4	BUSHING (Early pumps)
3	74393351	1	SHAFT
4	74026614	1	SHAFT
5	74028077	4	GEAR
6	74393349	3	GASKET
7	74395089	1	PLATE
8	74393346	3	BUSHING (Early pumps)
9	74393354	1	SHAFT
10	74320884	1	GEAR

(Added May 1978)



OIL PUMP LINES

USAGE: Engines with oil pump conversion kit 74321189.

ITEM	PART NO.	QTY.	DESCRIPTION
1	-----	1	PUMP ASSY. (See page 40A)
	70907863	2	LOCKWASHER, int.-tooth, 7/16"
	70928212	2	NUT, 7/16" NC
2	74395024	2	DOWEL
3	74393359	4	GASKET
4	74321052	1	ELBOW
	70923193	2	CAPSCREW, 3/8" NF x 1-1/4"
	70916543	2	LOCKWASHER, internal tooth, 3/8"
5	74320597	1	VALVE ASSY. (Includes items 6 thru 9)
6	-----	1	BODY (Not serviced separately)
	70916001	1	PIN, spring, 3/16" x 1"
7	-----	1	PISTON (Not serviced separately)
8	74354568	1	SPRING
9	74359310	1	WASHER
10	70930924	1	O-RING

(Continued)

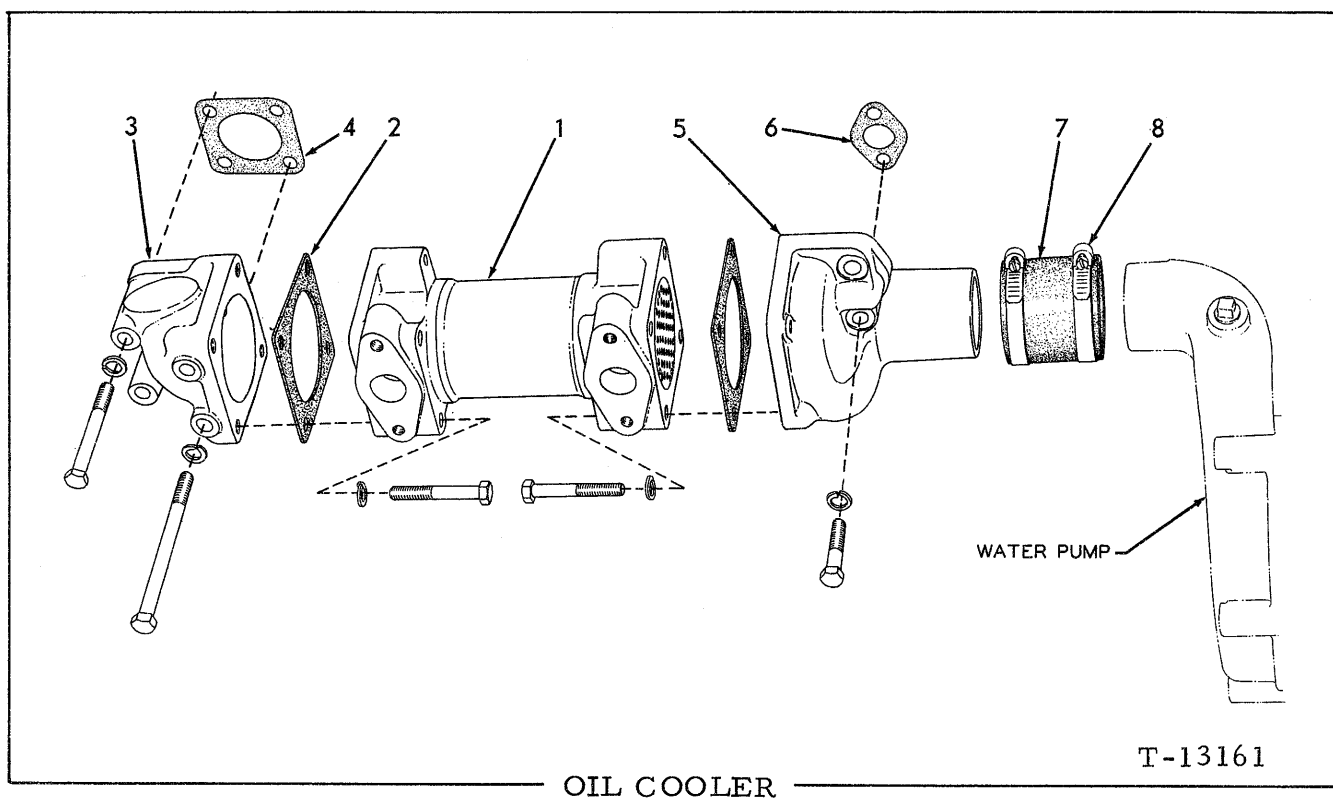
(Added May 1978)

OIL PUMP LINES (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
11	74320885	1	TUBE
	70921565	2	CAPSCREW, 3/8" x 1-1/2"
12	74320916	1	GASKET
13	74321053	1	U-BOLT
	70916871	2	NUT, elastic stop, 5/16" NC
14	74320887	1	TUBE
	70923193	2	CAPSCREW, 3/8" NF x 1-1/4"
	70916543	2	LOCKWASHER, internal tooth, 3/8"
15	74321671	1	BRACKET
	70921076	2	CAPSCREW, 3/8" NC x 1-1/4"
	70910287	2	LOCKWASHER, 3/8"
16	74320839	1	TUBE
	70923193	2	CAPSCREW, 3/8" NF x 1-1/4"
	70916543	2	LOCKWASHER, internal tooth, 3/8"
17	74320838	1	ELBOW
	70923193	2	CAPSCREW, 3/8" NF x 1-1/4"
	70916543	2	LOCKWASHER, internal tooth, 3/8"

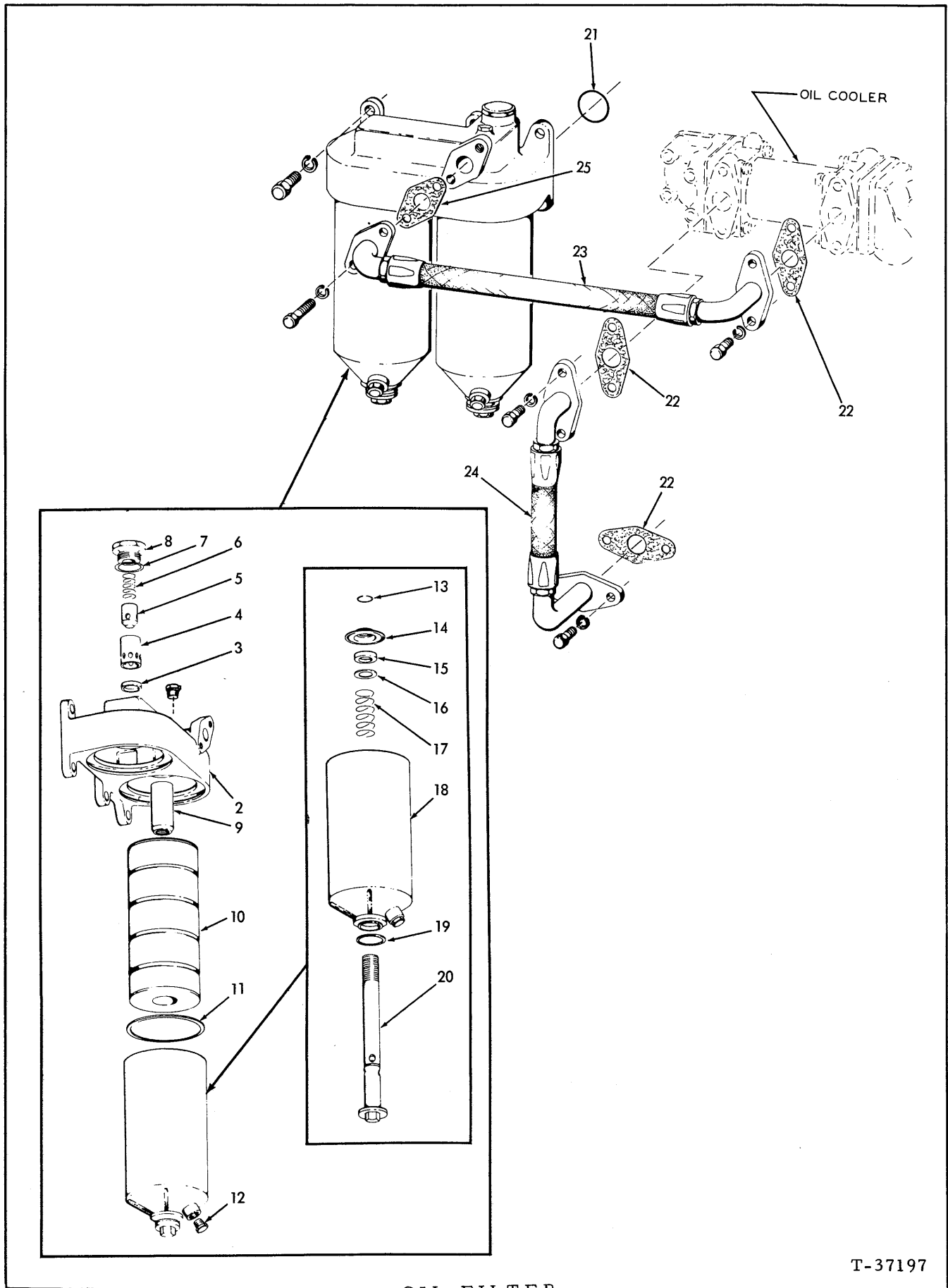
(Added May 1978)

MEMO



ITEM	PART NO.	QTY.	DESCRIPTION
1	74336596	1	COOLER, lubricating oil
	70912069	8	CAPSCREW, 3/8" NC x 2-1/2"
	70904206	8	LOCKWASHER, 3/8"
2	74349984	2	GASKET
3	74359963	1	CONNECTION, water outlet
	70919227	2	CAPSCREW, 3/8" NC x 3-1/4"
	70918778	2	CAPSCREW, 3/8" NC x 4-3/4"
	70904206	4	LOCKWASHER, 3/8"
4	74348184	1	□GASKET, water outlet
5	74348100	1	CONNECTION, water inlet
	70916273	2	CAPSCREW, 3/8" NC x 1-3/4"
	70904206	2	LOCKWASHER, 3/8"
6	74348185	1	□GASKET, water inlet
7	74506737	1	HOSE, water pump to cooler
8	70925758	2	CLAMP, hose

(Revised May 1978)

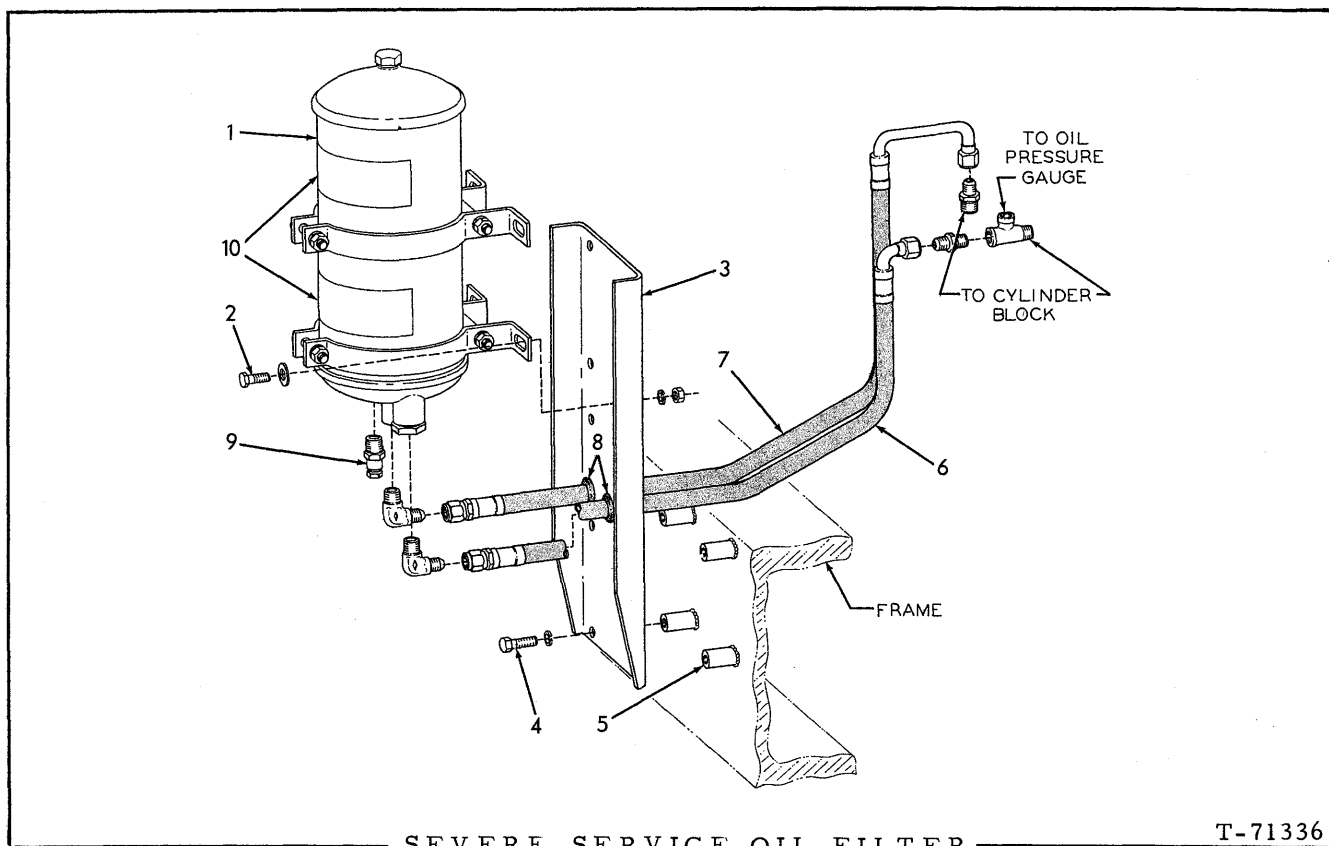


OIL FILTER

T-37197

OIL FILTER

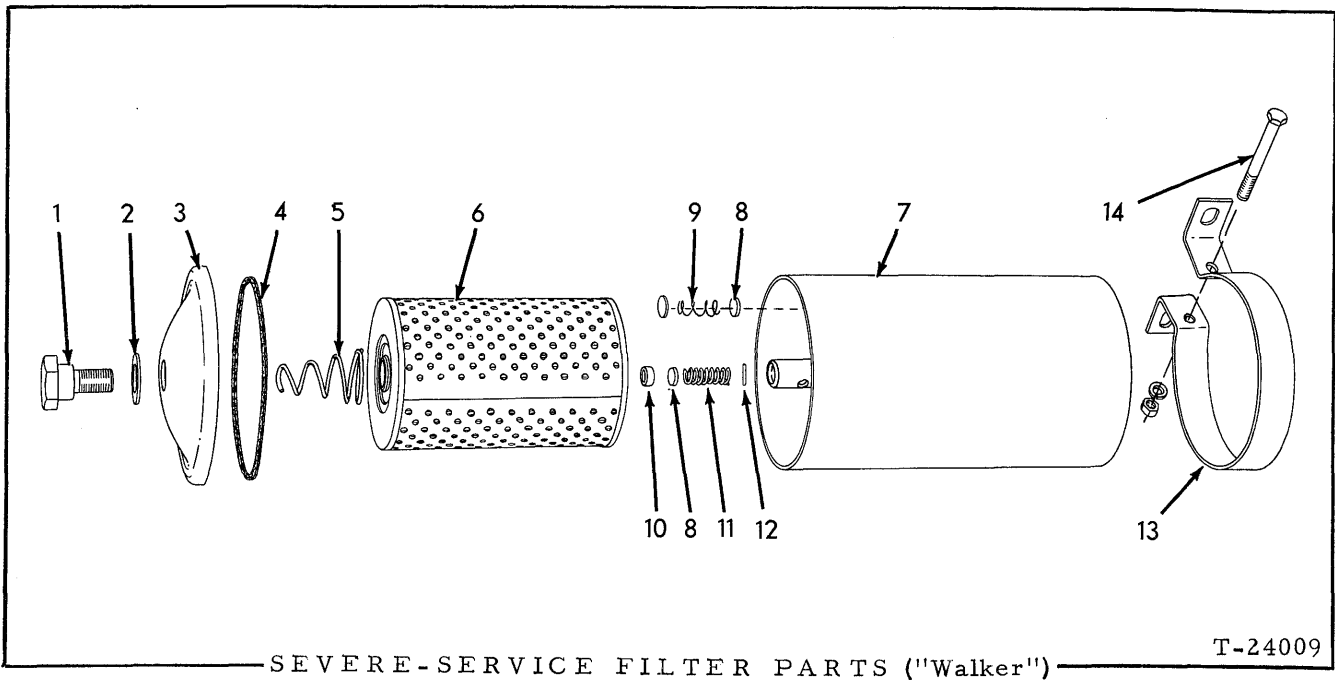
ITEM	PART NO.	QTY.	DESCRIPTION
1	74335335	1	FILTER ASSEMBLY, oil (Includes items 2 thru 20)
	70919230	6	CAPSCREW, 1/2"NC x 1-3/8"
	70904208	6	LOCKWASHER, 1/2"
2	74335336	1	HEAD ASSEMBLY, filter (Includes items 3 thru 9)
	70920333	1	PLUG, pipe, hex-hd., 3/8"NPT
3	74373614	1	SEAT, relief valve piston
4	74373612	1	SLEEVE, relief valve piston
5	74373613	1	PISTON, relief valve
6	74359656	1	SPRING, relief valve
7	74253751	1	GASKET, relief valve cap
8	74373610	1	CAP, relief valve
9	74371443	2	ADAPTER, center bolt
10	74395889	2	ELEMENT KIT, oil filter (Includes item 11)
11	74396318	2	GASKET, filter body
12	70918951	2	PLUG, filter drain (hex-hd., 3/8"NPT)
13	74253195	2	RING, snap, filter center bolt
14	74348269	2	ADAPTER, filter element
15	74348270	2	SEAL, filter element
16	74348268	2	WASHER, filter element seal
17	74371036	2	SPRING, filter element
18	74335352	2	BODY, oil filter
19	74041103	2	GASKET, filter center bolt
20	74374735	2	BOLT, center
21	70923718	1	□ O-RING, filter to cylinder block
22	74335577	3	□ GASKET, oil hose flange
23	74335567	1	HOSE ASSEMBLY, oil filter to cooler (See HOSE PARTS)
	70919224	4	CAPSCREW, 3/8"NC x 1-1/8"
	70904206	4	LOCKWASHER, 3/8"
24	74335566	1	HOSE ASSEMBLY, oil cooler to crankcase (See HOSE PARTS)
	70919224	4	CAPSCREW, 3/8"NC x 1-1/8"
	70904206	4	LOCKWASHER, 3/8"
25	74335578	1	□ GASKET, hose to filter



USAGE: Special Equipment. Supplements standard oil filter listed on page 43

ITEM	PART NO.	QTY.	DESCRIPTION
1	70098363	1	FILTER ASSEMBLY, lubricating oil ("Walker". See page 46 for parts)(Used prior to August 1965)
	70654674	1	FILTER ASSEMBLY, lubricating oil ("Briggs". See page 47 for parts)(Effective August 1965)
2	70035439	4	CAPSCREW, 3/8"NC x 1"
	70911115	4	WASHER, plain, SAE std., 3/8"
	70904206	4	LOCKWASHER, 3/8"
	70911026	4	NUT, 3/8"NC
3	70638570	1	BRACKET, filter mounting
4	70035439	4	CAPSCREW, 3/8"NC x 1"
	70904206	4	LOCKWASHER, 3/8"
5	70091371	4	BLOCK, tapped (Requires welding to grader frame)
6	70645421	1	HOSE, oil supply (See HOSE PARTS)
	70919136	1	ELBOW, flare type, 3/8" tube, 3/8"NPT male
	70919062	1	CONNECTOR, flare type, 3/8" tube, 1/4"NPT male
	70913938	1	TEE, service, 1/4"NPT
7	70645423	1	HOSE, oil return (See HOSE PARTS)
	70919136	1	ELBOW, flare type, 3/8" tube, 3/8"NPT male
	70919172	1	CONNECTOR, flare type, 3/8" tube, 3/8"NPT male
8	70096034	2	GROMMET, hose protecting
9	70633519	1	COCK, filter drain
10	-----	2	TRANSFER (See PAINTING AND MARKING)

MEMO

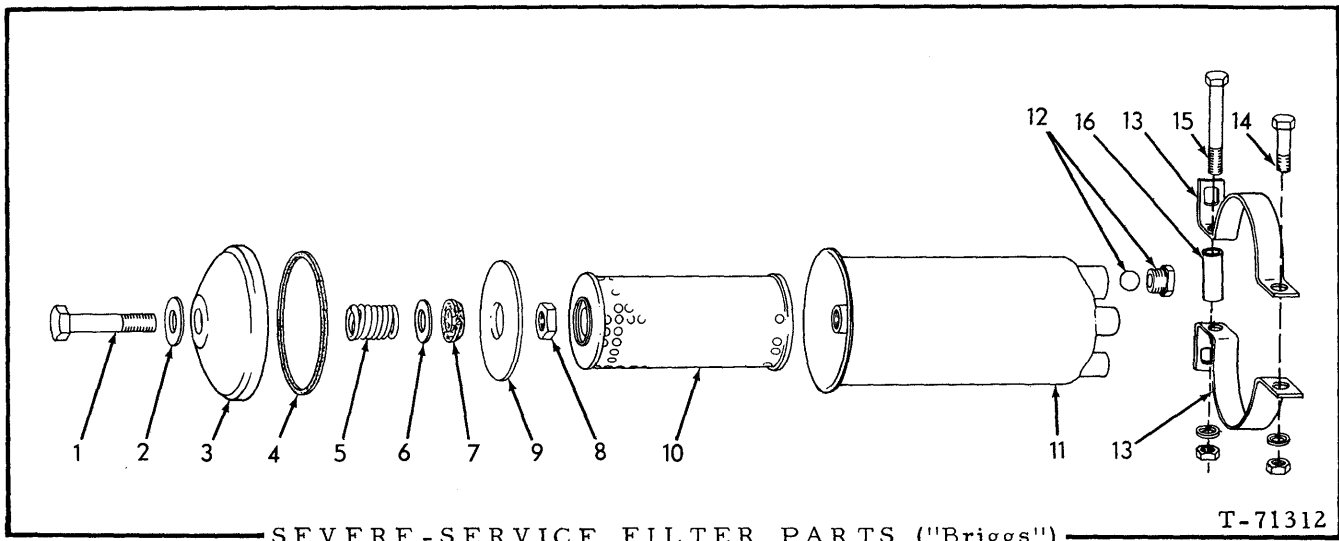


SEVERE-SERVICE FILTER PARTS ("Walker")

T-24009

* 70098363 FILTER ASSEMBLY, oil (See page 44)
 ** 70098364 FILTER ASSEMBLY, fuel (See page 48)

ITEM	PART NO.	QTY.		DESCRIPTION
		*	**	
1	70098433	1	1	BOLT, cover
2	70098435	1	1	GASKET, cover bolt
3	70098436	1	1	COVER
4	70098437	1	1	GASKET, cover
5	70098438	1	1	SPRING, element hold-down
6	70098441	1	1	ELEMENT KIT (Includes item 4)
7	70098440	1	-	SHELL ASSEMBLY (Includes items 8 thru 12)
	70910002	1	-	
	70098439	-	1	SHELL
8	70098444	2	-	VALVE, check, inlet and outlet
9	70098446	1	-	SPRING, inlet check valve
10	70099746	1	-	SLEEVE, outlet check valve
11	70098443	1	-	SPRING, outlet check valve
12	70098445	1	-	PIN, retaining, outlet valve spring
13	70098434	2	2	BRACKET, mounting
14	70042265	2	2	CAPSCREW, 3/8"NF x 3-1/4"
	70904206	2	2	LOCKWASHER, 3/8"
	70911041	2	2	NUT, 3/8"NF

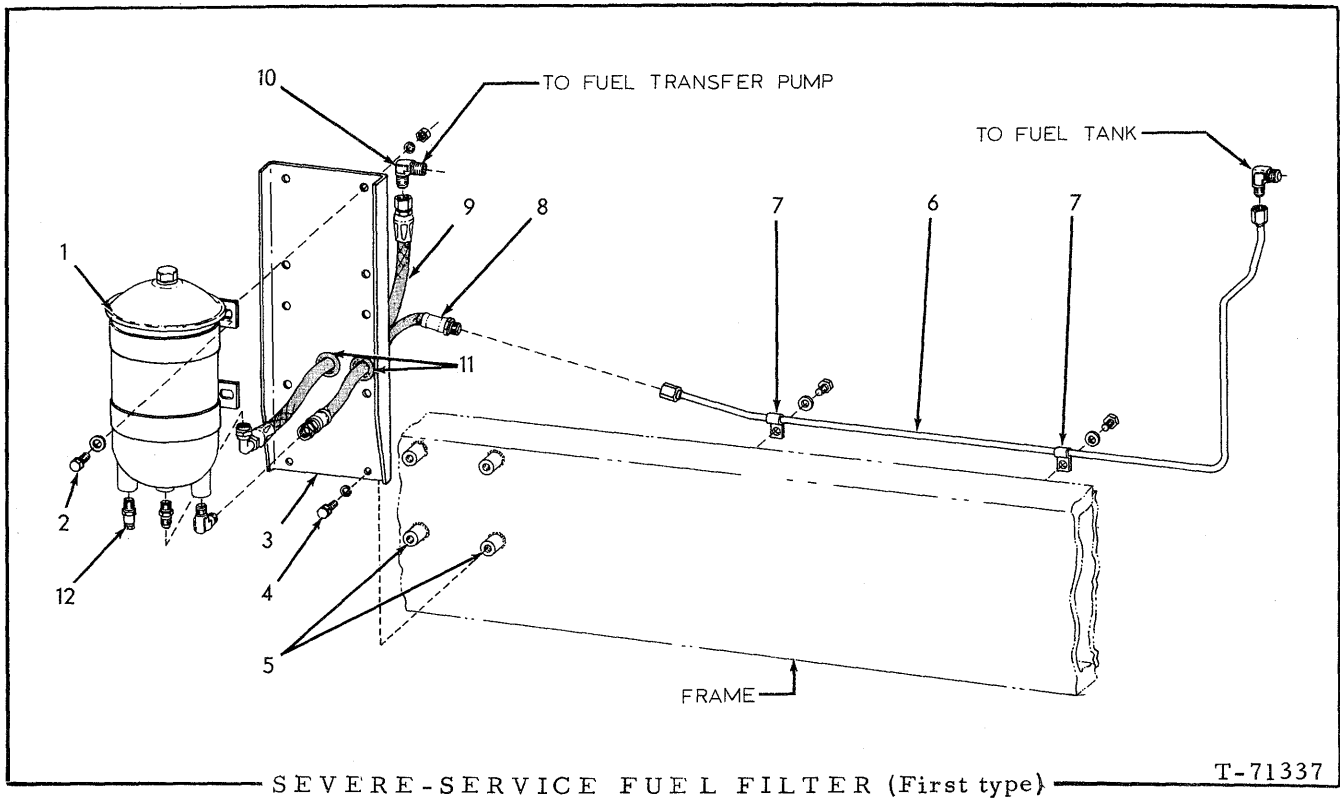


SEVERE-SERVICE FILTER PARTS ("Briggs")

T-71312

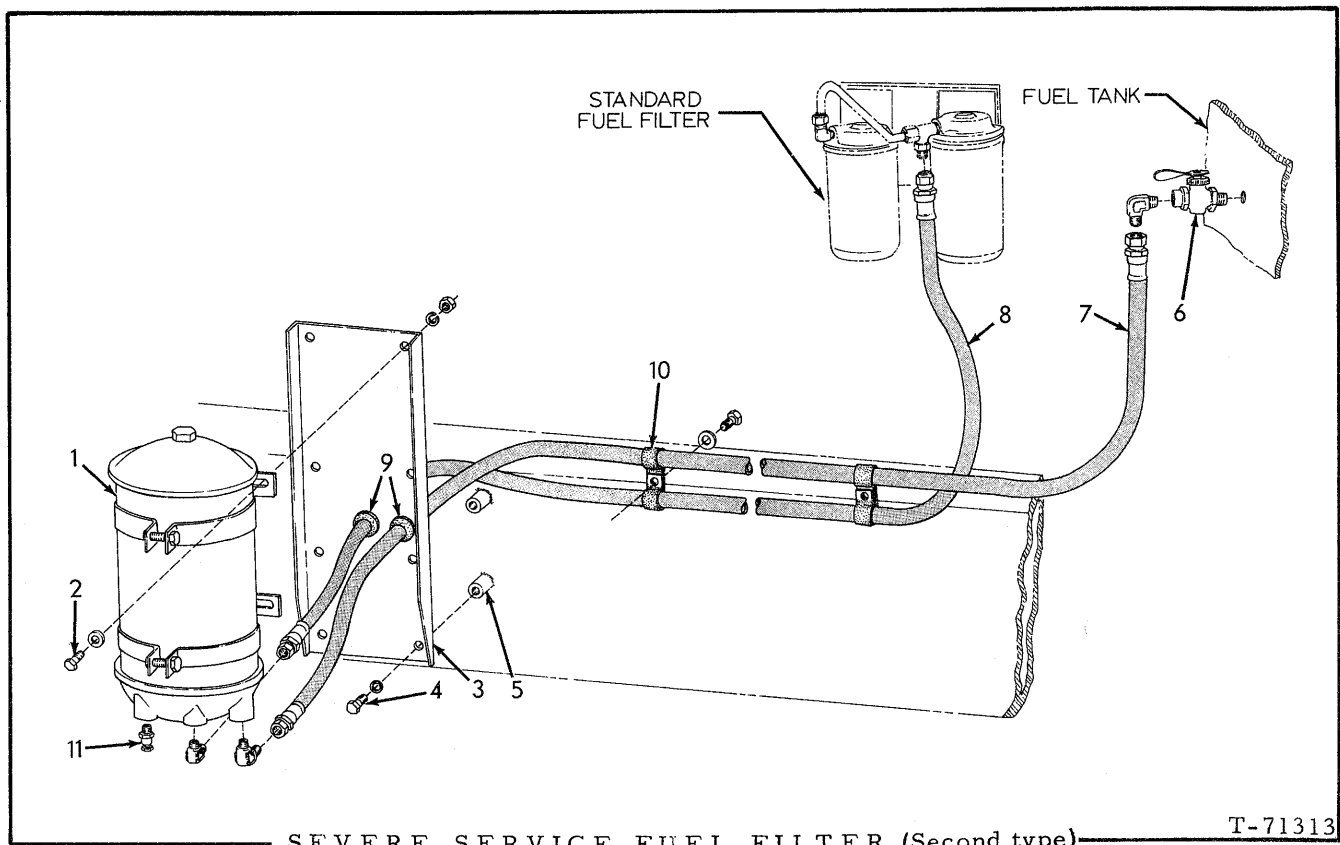
* 70654674 FILTER ASSEMBLY, oil (See page 44)
 ** 70654673 FILTER ASSEMBLY, fuel (See pages 48 and 49)

ITEM	PART NO.	QTY.		DESCRIPTION
		*	**	
1	70647680	1	-	VALVE ASSEMBLY, by-pass (Includes ball, spring and retainer) (Serviced only as a unit)
	70647432	-	1	CAPSCREW, cover retaining
2	70647436	1	1	WASHER, cover retaining cap screw (copper)
3	70647446	1	1	COVER, tank
4	70647448	1	1	GASKET, tank cover
5	70647439	1	1	SPRING, element retaining
6	70647449	1	1	WASHER, element retaining spring (steel)
7	70647450	1	1	WASHER, sealing, cover retaining cap screw (cork)
8	70647455	1	1	NUT
9	70647453	1	1	PLATE, element retaining
10	70647513	1	1	ELEMENT KIT (Includes item 4)
11	70654720	1	-	TANK
	70654719	-	1	TANK
12	70654721	1	-	BUSHING, oil inlet
	70905366	1	-	BALL, steel, 11/16" diam. (check valve)
13	70647554	4	4	STRAP, mounting
14	70013059	2	2	CAPSCREW, 3/8"NC x 2"
15	70041915	2	2	CAPSCREW, 3/8"NC x 3-1/2"
	70904206	4	4	LOCKWASHER, 3/8"
	70911026	4	4	NUT, 3/8"NC
16	70654717	2	2	PIPE, spacing, mounting strap



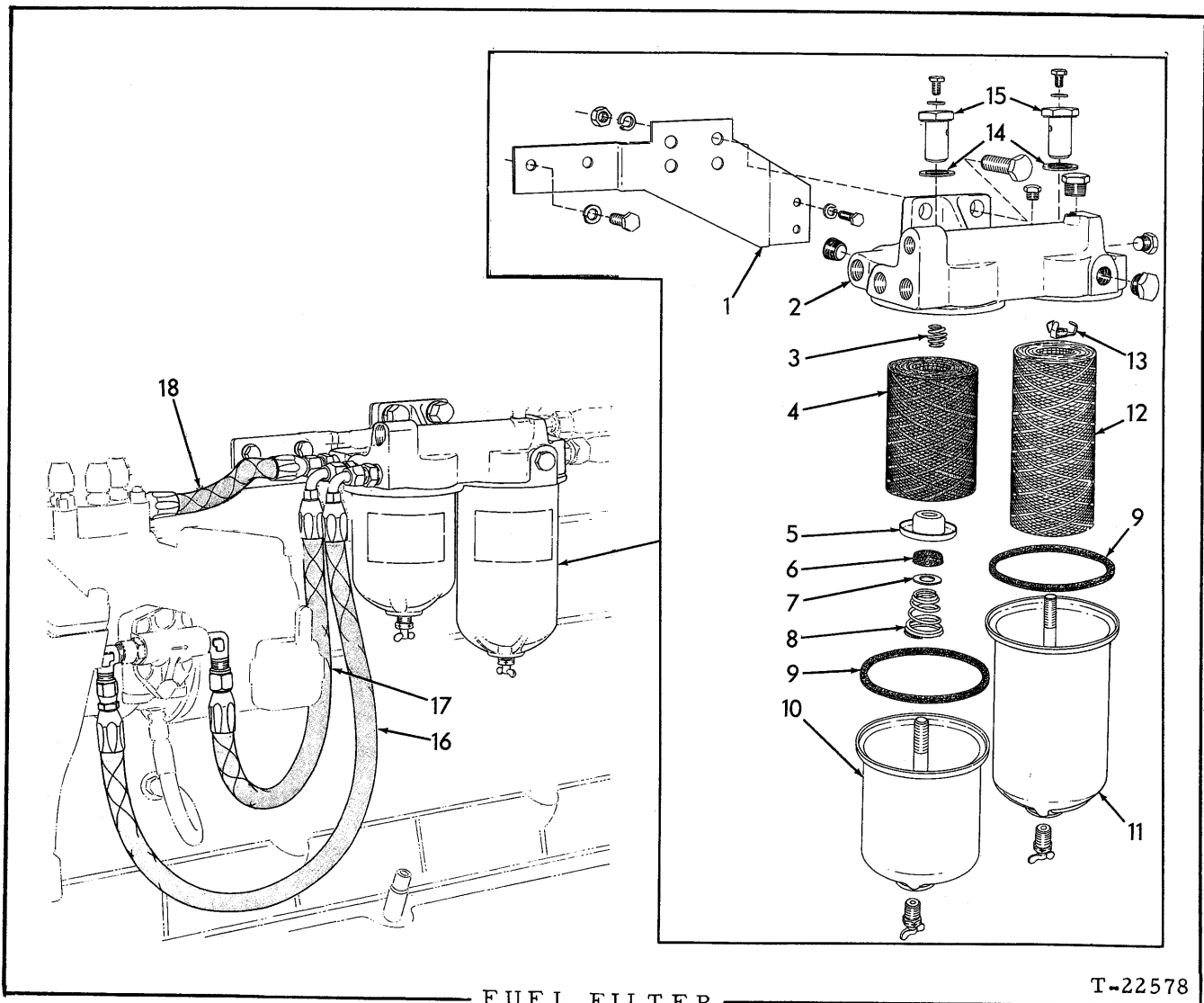
USAGE: Special equipment on units prior to serial No. 1209. Supplements standard fuel filter.

ITEM	PART NO.	QTY.	DESCRIPTION
1	70098364	1	FILTER ASSEMBLY, fuel ("Walker". See page 46 for parts)(Used prior to August 1965)
	70654673	1	FILTER ASSEMBLY, fuel ("Briggs". See page 47 for parts)(Effective August 1965)
2	70035439	4	CAPSCREW, 3/8"NC x 1"
	70911115	4	WASHER, plain, SAE std., 3/8"
	70904206	4	LOCKWASHER, 3/8"
	70911026	4	NUT, 3/8"NC
3	70638570	1	BRACKET, filter mounting
4	70035439	4	CAPSCREW, 3/8"NC x 1"
	70904206	4	LOCKWASHER, 3/8"
5	70091371	4	BLOCK, tapped (Requires welding to grader frame)
6	70628014	1	TUBE ASSEMBLY, tank to filter (Includes nuts)
	70919135	1	ELBOW, flare type, 3/8" tube, 1/4"NPT male
7	70040796	2	CLIP, tube supporting (3/8" diam., 13/32" bolt-hole)
	70903627	2	CAPSCREW, 3/8"NC x 1/2"
	70911115	2	WASHER, plain, SAE std., 3/8"
8	70094320	1	HOSE ASSEMBLY, tube to filter (See HOSE PARTS)
	70919136	1	ELBOW, flare type, 3/8" tube, 3/8"NPT male
9	74335898	1	HOSE ASSEMBLY, filter to injection pump (See HOSE PARTS)
	70919172	1	CONNECTOR, flare type, 3/8" tube, 3/8"NPT male
10	74337251	1	ELBOW, flare type, 3/8" tube, 1/4"NPT male
11	70096034	2	GROMMET, hose protecting
12	70633519	1	COCK, filter drain



USAGE: Special equipment on graders serial No.1209 and up. Supplements standard fuel filter.

ITEM	PART NO.	QTY.	DESCRIPTION
1	70654673	1	FILTER ASSEMBLY, fuel (See page 47 for parts)
2	70035439	4	CAPSCREW, 3/8"NC x 1"
	70911115	4	WASHER, plain, SAE std., 3/8"
	70904206	4	LOCKWASHER, 3/8"
	70911026	4	NUT, 3/8"NC
3	70638570	1	BRACKET, filter mounting
4	70035439	4	CAPSCREW, 3/8"NC x 1"
	70904206	4	LOCKWASHER, 3/8"
5	70091371	4	BLOCK, tapped. (Requires welding to grader frame)
6	70099433	1	COCK, fuel shut-off (1/4"NPT male and female)
7	70650784	1	HOSE, fuel inlet (See HOSE PARTS)
	70919135	1	ELBOW, flare type, 3/8" tube, 1/4"NPT male
	70919136	1	ELBOW, flare type, 3/8" tube, 3/8"NPT male
8	70650785	1	HOSE, fuel outlet (See HOSE PARTS)
	70919136	1	ELBOW, flare type, 3/8" tube, 3/8"NPT male
9	70096034	2	GROMMET, hose protecting
10	70621304	4	CLIP, hose supporting
	70903629	2	CAPSCREW, 3/8"NC x 3/4"
	70911115	2	WASHER, plain, SAE std., 3/8"
11	70633519	1	COCK, filter drain



USAGE: Graders prior to No. 1209

ITEM PART NO. QTY. DESCRIPTION

NOTE: Also see page 48 for supplementary Severe-Service Fuel Filter.

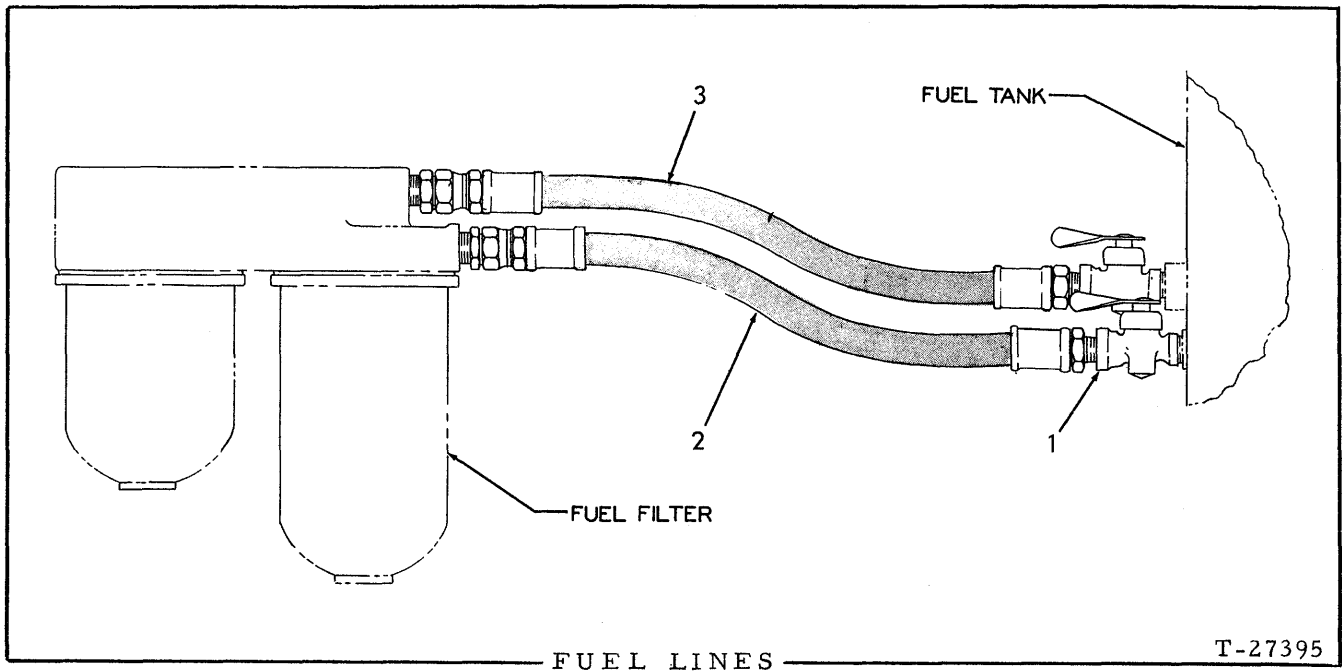
1	74336589	1	BRACKET, filter mounting
	70916271	2	CAPSCREW, 3/8"NC x 1"
	70904206	2	LOCKWASHER, 3/8"
	70903771	2	CAPSCREW, 5/16"NC x 7/8"
	70904205	2	LOCKWASHER, 5/16"
2	74389051	1	HEAD ASSEMBLY (Includes PLUGS indented below)(If for engines prior to #10-11917 also order 2 NUTS 74389113 and 1 reducing BUSHING 70901826)
	70919134	2	PLUG, pipe, hex-hd., 1/8"NPT
	70919840	1	PLUG, pipe, hex-hd., 1/4"NPT (Engines prior to #10-11917)
	70920333	3	PLUG, pipe, hex-hd., 3/8"NPT (1 less used on engines prior to #10-11917)
	70918887	1	PLUG, hex-socket, 3/8"NPT
	70919230	2	CAPSCREW, 1/2"NC x 1-3/8"
	70904208	2	LOCKWASHER, 1/2"
	70910325	2	NUT, 1/2"NC

(Continued)

FUEL FILTER (Continued)

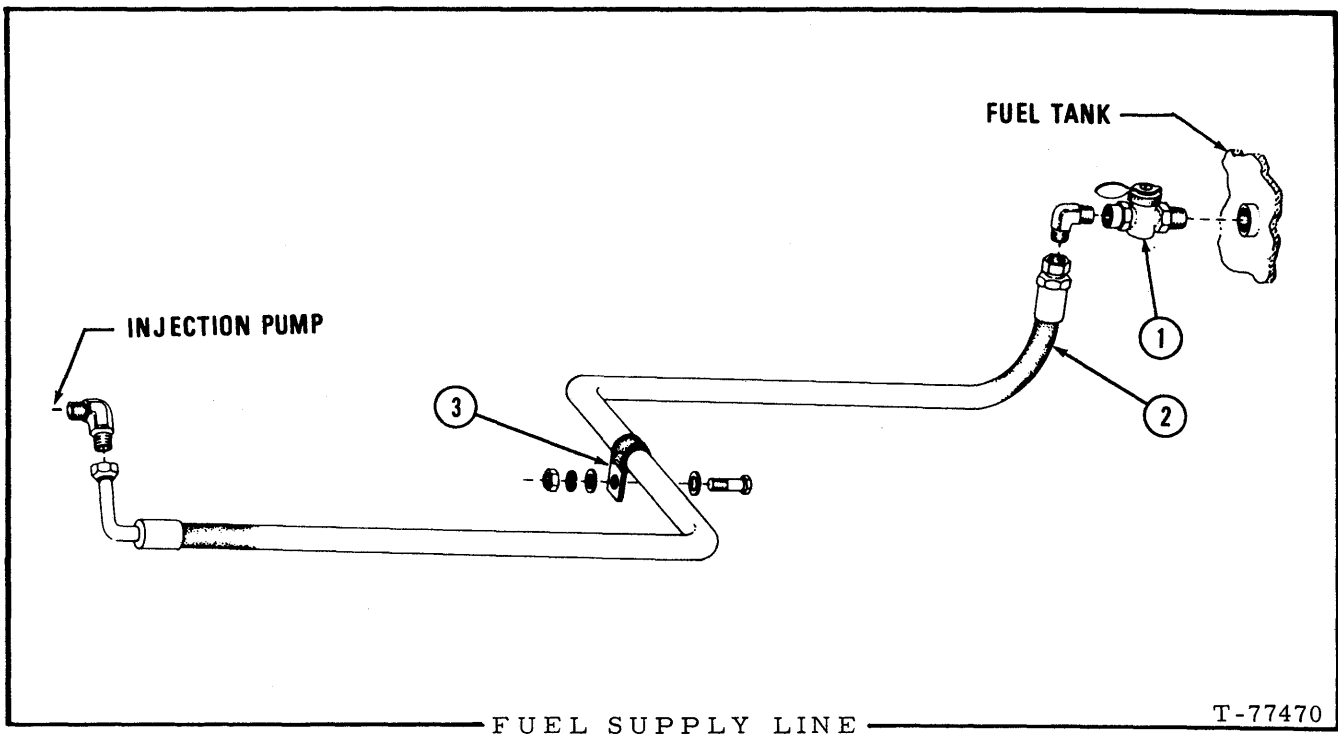
ITEM	PART NO.	QTY.	DESCRIPTION
3	74055913	1	GUIDE, element centering, second stage filter
4	74056633	1	ELEMENT KIT, second stage filter (Includes items 6, 7 and 9)
5	74052173	1	PLATE, element seating, second stage filter
6	-----	1	GASKET, element seat plate (Furnished only as part of item 4)
7	-----	1	WASHER, seating plate gasket (Furnished only as part of item 4)
8	74052174	1	SPRING, second stage filter
9	74040013	2	GASKET, filter shell
10	70065582	1	SHELL, second stage filter
	70912415	1	COCK, drain, 1/4"NPT
11	74354416	1	SHELL ASSY, first stage filter(Includes items 12 thru 15 and COCK 70912415)
	70912415	1	COCK, drain, 1/4"NPT
12	74055563	1	ELEMENT ASSEMBLY, first stage filter (Includes item 9)(Not used when Severe-Service Fuel Filter is installed)
13	74051485	1	GUIDE, element centering, first stage filter
14	74051484	2	GASKET, shell retaining nut
15	74051483	2	NUT, shell retaining (1-3/16" long)(Engines prior to #10-11917)
	74389113	2	NUT, shell retaining (1-9/16" long)(Engines #10-11917 and up)
	70919288	2	CAPSCREW, 1/4"NC x 3/8"
	70914686	2	WASHER, plain, copper, 1/4"I. D.
16	74335898	1	HOSE ASSEMBLY, first stage filter to transfer pump (See HOSE PARTS) (Not used on graders equipped with special Severe-Service Fuel Filter)
	70919172	1	CONNECTOR, flare type, 3/8" tube, 3/8"NPT male
	74337251	1	ELBOW, flare type, 3/8" tube, 1/4"NPT male
17	74335935	1	HOSE ASSEMBLY, transfer pump to second stage filter (See HOSE PARTS)
	70919062	1	CONNECTOR, flare type, 3/8" tube, 1/4"NPT male (Engines prior to #10-11917)
	70919172	1	CONNECTOR, flare type, 3/8" tube, 3/8"NPT male (Engines #10-11917 and up)
	74337251	1	ELBOW, flare type, 3/8" tube, 1/4"NPT male
18	74335897	1	HOSE ASSEMBLY, filter to injection pump (See HOSE PARTS)
	70919172	1	CONNECTOR, flare type, 3/8" tube, 3/8"NPT male

NOTE: See PAINTING AND MARKING for transfers



USAGE: Graders prior to serial No. 1209

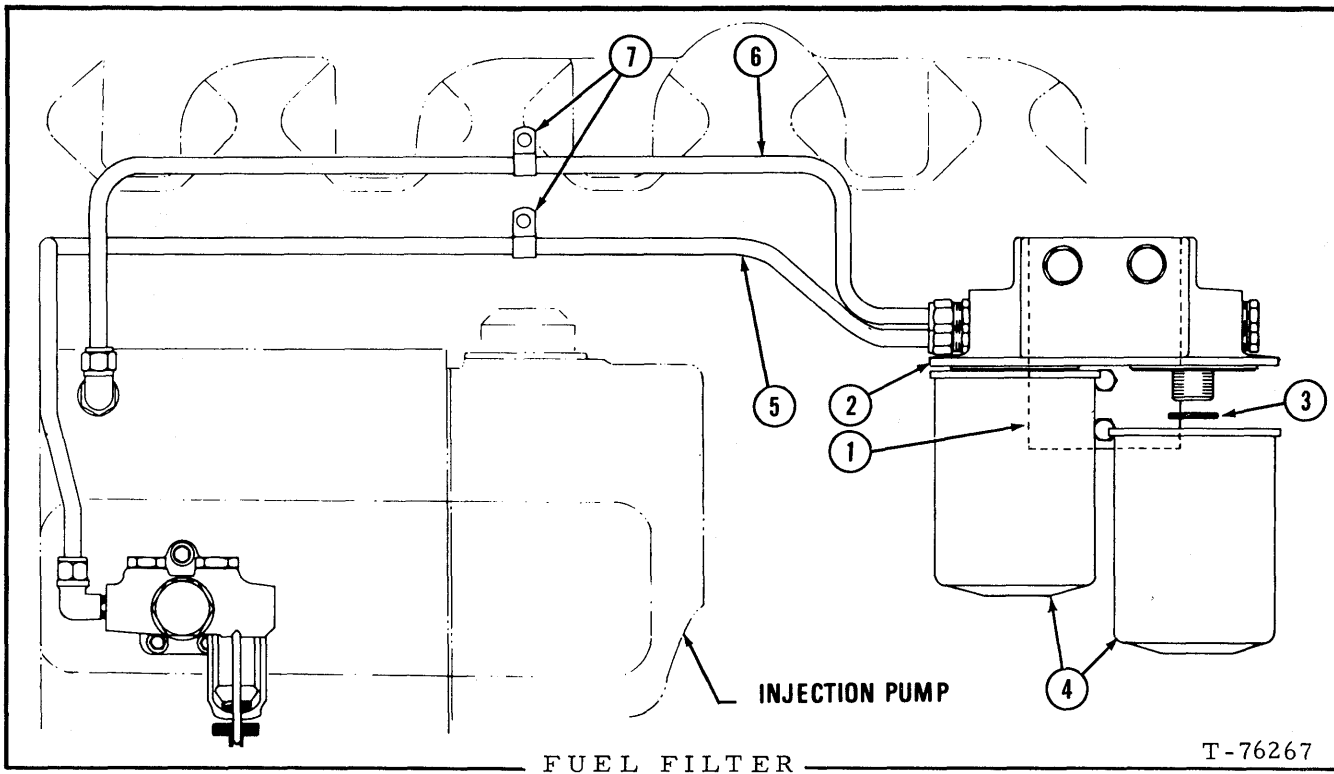
ITEM	PART NO.	QTY.	DESCRIPTION
1	70099433	2	COCK, fuel shut-off (1/4"NPT male and female)
2	70645388	1	HOSE, fuel supply (See HOSE PARTS)
	70919172	1	CONNECTOR, flare type, 3/8" tube, 3/8"NPT male
3	70645383	1	HOSE, fuel return (See HOSE PARTS)
	70919062	1	CONNECTOR, flare type, 3/8" tube, 1/4"NPT male



USAGE: Graders serial No. 67S06589 and up; Engines serial No. 11-19309 and up.

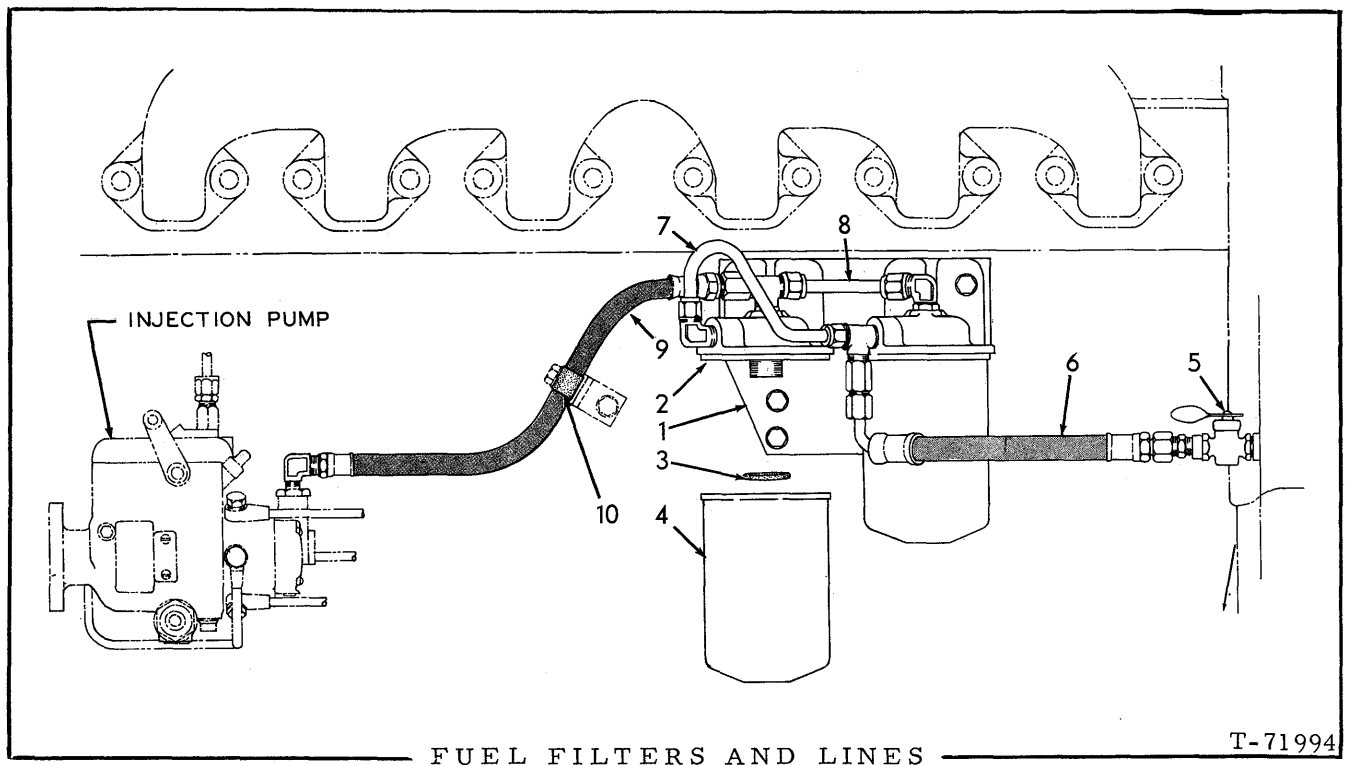
ITEM	PART NO.	QTY.	DESCRIPTION
1	70099433	1	COCK
2	70679715	1	HOSE
	70919135	2	ELBOW, flare type, 3/8" tube, 1/4"NPT male
3	70094467	1	CLIP
	70922763	1	CAPSCREW, 3/8"NC x 1"
	70677006	2	WASHER, plain
	70910287	1	LOCKWASHER, 3/8"
	70911026	1	NUT, 3/8"NC

(Added July 1972)



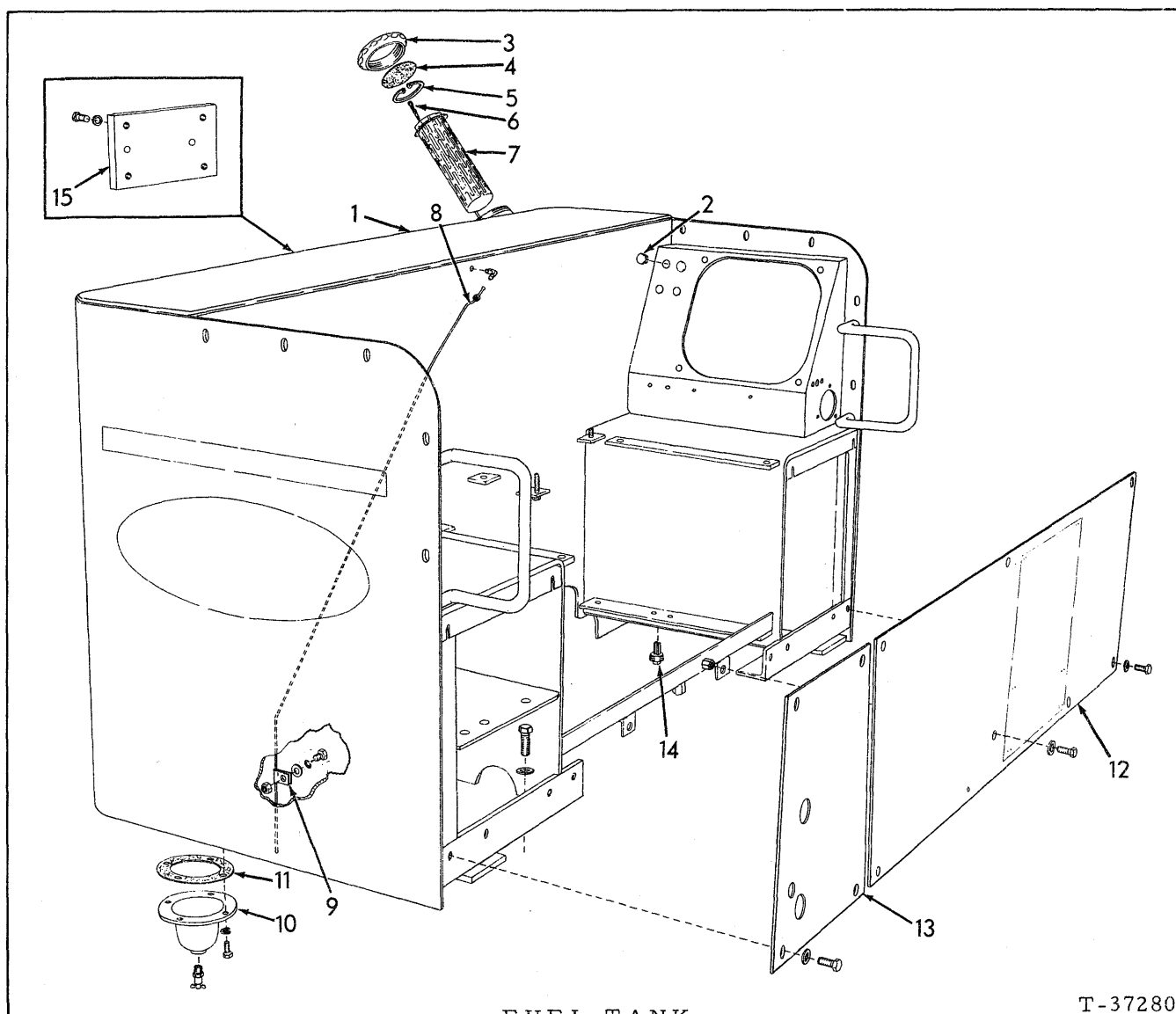
USAGE: Graders serial No. 67S06589 and up; Engines serial No. 11-19309 and up.

ITEM	PART NO.	QTY.	DESCRIPTION
1	74359666	1	BRACKET, filter mounting
	70914670	2	CAPSCREW, 5/16"NC x 1-1/4"
	70904205	2	LOCKWASHER, 5/16"
2	74393077	1	HEAD ASSY., fuel filter (Includes insert which is not serviced separately)
	70922577	2	PLUG, pipe, hex-hd., 9/16" straight thd. (Includes O-RING)
	70921885	2	O-RING
	70918683	2	CAPSCREW, 1/2"NC x 1-1/4"
	70904208	2	LOCKWASHER, 1/2"
	70912333	2	WASHER, plain
3	70923934	2	O-RING, filter element
4	74028945	2	ELEMENT, fuel filter (Includes item 3)
5	74359689	1	TUBE, transfer pump to filter
	70917810	2	NUT, Imperial, 3/8" tube
	70917807	2	SLEEVE, Imperial, 3/8" tube
	70920280	1	ELBOW, Imperial, 3/8" tube, 1/4"NPT male
	74359776	1	CONNECTOR (Includes O-RING)
	70921885	1	O-RING
6	74359688	1	TUBE, filter to pump
	70917810	2	NUT, Imperial, 3/8" tube
	70917807	2	SLEEVE, Imperial, 3/8" tube
	70920280	1	ELBOW, Imperial, 3/8" tube, 1/4"NPT male
	74359776	1	CONNECTOR (Includes O-RING)
	70921885	1	O-RING
7	74255740	2	CLAMP, tube supporting



USAGE: Graders serial No. 1209 thru No. 5000; also graders serial No. 67S05001 thru 67S06588.

ITEM	PART NO.	QTY.	DESCRIPTION
1	74357429	1	BRACKET, filter mounting
	70914392	4	CAPSCREW, 5/16"NC x 1"
	70904205	4	LOCKWASHER, 5/16"
2	74025229	2	BASE ASSEMBLY, fuel filter (Includes insert which is not serviced separately)
	70919134	2	PLUG, pipe, hex-hd., 1/8"NPT
	70916197	4	CAPSCREW, 7/16"NC x 1-1/4"
	70904207	4	LOCKWASHER, 7/16"
	70912201	4	NUT, 7/16"NC
3	70923934	2	O-RING, filter element
4	74028945	2	ELEMENT, fuel filter (Includes item 3)
5	70099433	1	COCK, fuel shut-off (1/4"NPT male and female)
6	70650318	1	HOSE, fuel tank to filters (See HOSE PARTS)(Not for units with Severe-Service fuel filter)
	70919062	1	CONNECTOR, flare type, 3/8" tube, 1/4"NPT male
	70923979	1	CONNECTOR, flare type, 3/8" tube, 3/8"NPT female
7	74354393	1	TUBE ASSEMBLY, fuel inlet (Includes NUTS and SLEEVES indented below)
	70917810	2	NUT, Imperial, 3/8" tube
	70917807	2	SLEEVE, Imperial, 3/8" tube
	70919005	1	ELBOW, Imperial, 3/8" tube, 3/8"NPT male
	74354394	1	TEE, Imperial, 3/8" tube, 3/8"NPT male end and side)
8	74354391	1	TUBE ASSEMBLY, fuel outlet (Includes NUTS and SLEEVES indented below)
	70917810	2	NUT, Imperial, 3/8" tube
	70917807	2	SLEEVE, Imperial, 3/8" tube
	70919005	1	ELBOW, Imperial, 3/8" tube, 3/8"NPT male
	74354394	1	TEE, Imperial, 3/8" tube, 3/8"NPT male end and side
9	74357430	1	HOSE, filter to pump (See HOSE PARTS)
	70923979	1	CONNECTOR, flare type, 3/8" tube, 3/8"NPT female
	70919135	1	ELBOW, flare type, 3/8" tube, 1/4"NPT male
10	74255010	1	CLAMP, hose supporting



FUEL TANK

T-37280

* Graders prior to serial No. 1209
 ** Graders serial No. 1209 and up

ITEM	PART NO.	QTY.	DESCRIPTION
		* **	
1	70647284	1 -	SEAT AND TANK ASSY. (Includes items 3 and 4)
	70659040	- 1	SEAT AND TANK ASSY. (Includes items 3 and 4)(Graders prior to #1702. If for graders prior to #1600 also order 1 PANEL 70658677, 1 SEAL 70658666 and 4 each CUSHION 70642746, NUT 70911041, LOCKWASHER 70904206 and NUT 70914454)
	70650986	- 1	SEAT AND TANK ASSY. (Includes items 3 and 4)(Graders #1702 thru #1765)
	70660080	- 1	SEAT AND TANK ASSY. (Includes items 3 and 4)(Graders #1766 thru #1979)
	70663880	- 1	SEAT AND TANK ASSY. (Includes items 3 and 4)(Graders #1980 and up)
	70903639	6 5	CAPSCREW, 1/2"NC x 1-1/2"
	70903640	- 1	CAPSCREW, 1/2"NC x 2"
	70900818	6 6	WASHER, plain, U.S. Std., 1/2"

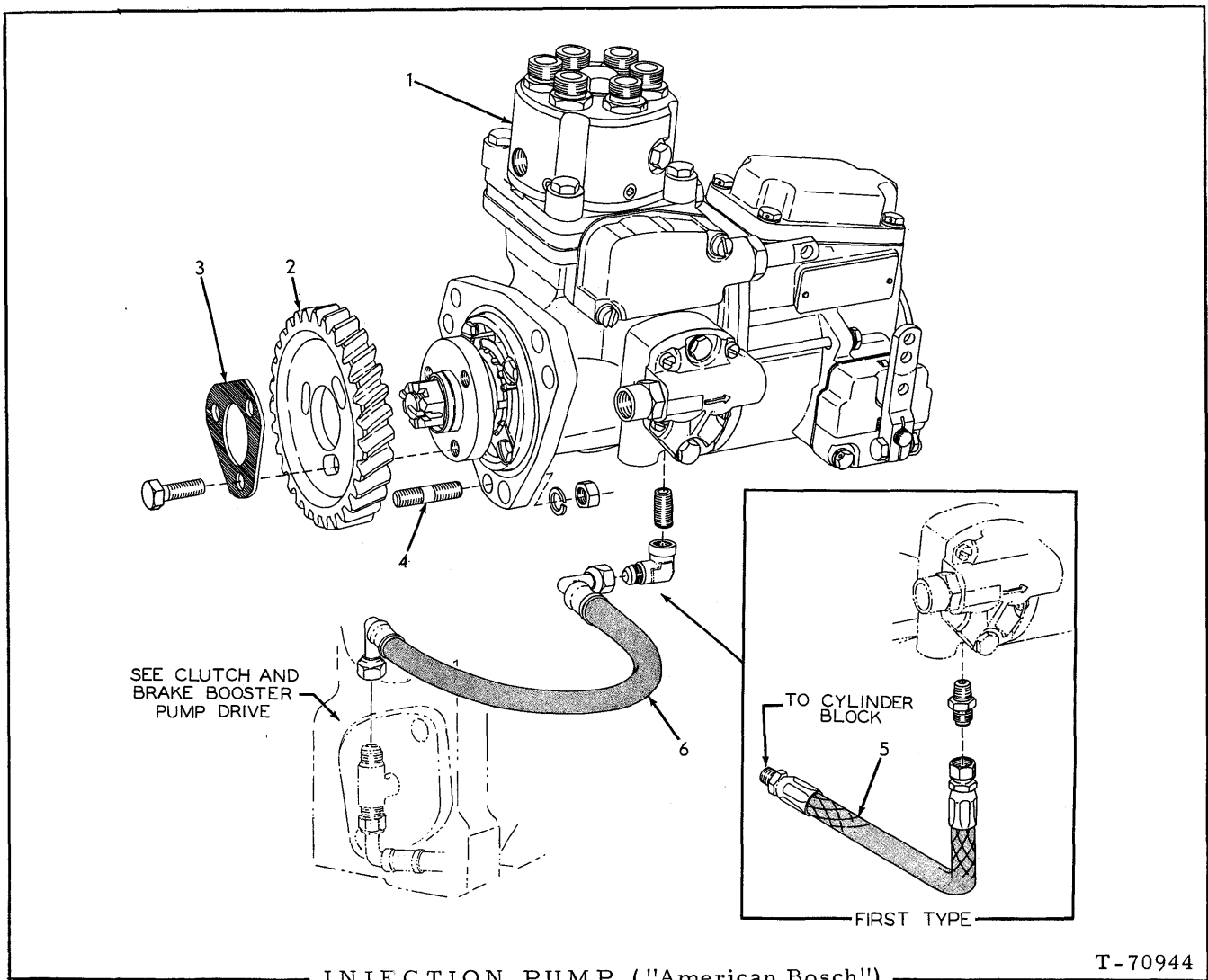
(Continued)

FUEL TANK (Continued)

ITEM	PART NO.	QTY. * **	DESCRIPTION
2	70922803	- 4	PLUG, button, instrument compartment (Effective with grader#1600)
3	70642774	1 1	CAP, fuel tank
4	70065613	1 1	GASKET, fuel tank cap
5	70621775	- 1	RING, snap, fuel strainer
6	70649707	1 -	GAUGE, fuel
	70650369	- 1	GAUGE, fuel
7	70642749	- 1	STRAINER, fuel
8	70620988	1 1	TUBE, vent
	70919093	1 1	ELBOW, flare type, 90°, 1/8" tube, 1/8"NPT male
	70919100	1 1	NUT, flare type, 1/8" tube
	70919099	1 1	SLEEVE, flare type, 1/8" tube
9	70066260	1 1	CLIP, vent tube
	70903630	1 -	CAPSCREW, 3/8"NC x 1"
	70927484	- 1	CAPSCREW, 3/8"NC x 1/2"
	70911115	1 1	WASHER, plain, SAE std., 3/8"
	70910287	- 1	LOCKWASHER, 3/8"
	70911026	1 -	NUT, 3/8"NC
10	70042645	1 1	SUMP, fuel tank sediment
	70927211	4 4	CAPSCREW, 3/8"NF x 3/4"
	70910287	4 4	LOCKWASHER, 3/8"
	70912319	1 1	COCK, drain, 1/4"NPT
11	70042641	1 1	GASKET, sediment sump
12	70639114	1 -	PLATE, front closure, center (31-1/2" long)
	70903627	6 -	CAPSCREW, 3/8"NC x 1/2"
	70900817	6 -	WASHER, plain, U.S. Std., 3/8"
12	70648777	- 1	PLATE, front closure (44-3/8" long)
	70903629	- 7	CAPSCREW, 3/8"NC x 3/4"
	70911115	- 7	WASHER, plain, SAE std., 3/8"
	70904206	- 2	LOCKWASHER, 3/8"
	70911026	- 2	NUT, 3/8"NC
13	70639115	2 1	PLATE, front closure, end (Standard. Also see HOUR METER)
	70657258	- 1	PLATE, front closure, end (Special. Replaces standard PLATE 70639115 on units equipped with CAB HEATER)
	70903629	8 4	CAPSCREW, 3/8"NC x 3/4"
	70911115	8 4	WASHER, plain, SAE std., 3/8"
14	70634668	- 1	PLUG, drain, hydraulic tank (magnetic)(Graders #1980 and up)
15	70650945	- 1	PLATE, adapting, voltage regulator (Special service only)
	70915406	- 2	CAPSCREW, 1/4"NC x 3/4"
	70904204	- 2	LOCKWASHER, 1/4"

NOTE: See PAINTING AND MARKING for instruction plate and transfers

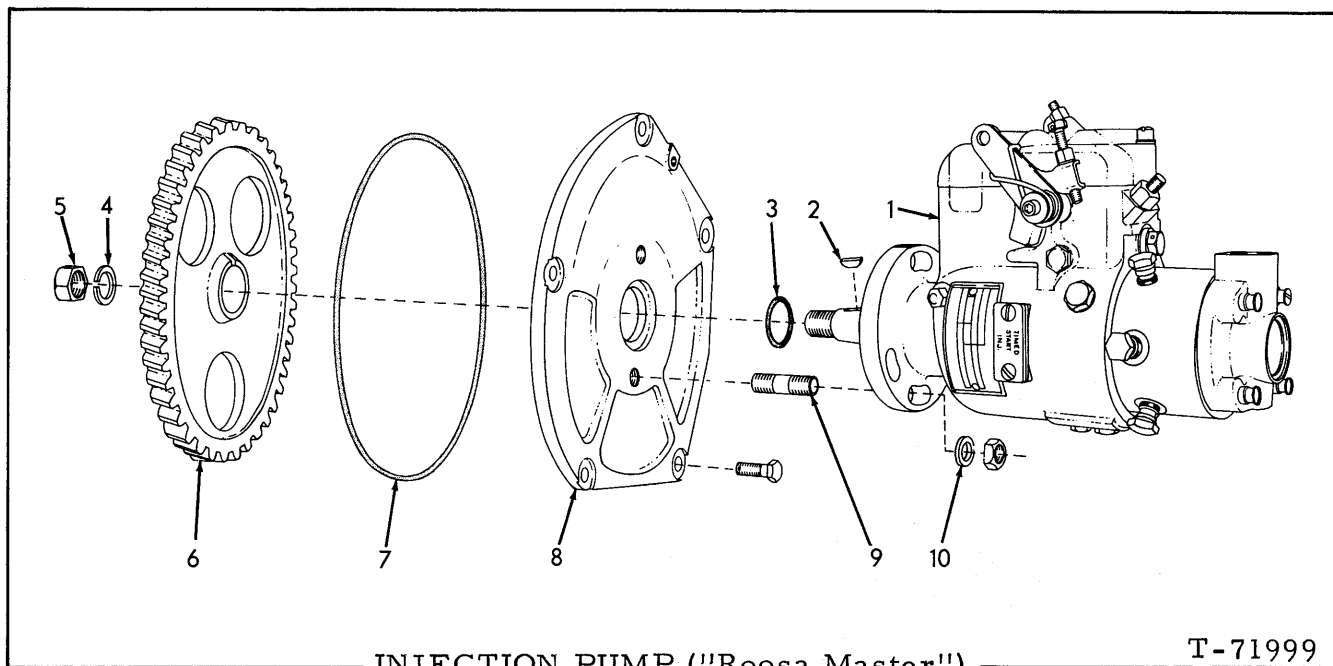
(Revised May 1978)



USAGE: Graders prior to serial No. 1209

ITEM	PART NO.	QTY.	DESCRIPTION
1	74354191	1	PUMP ASSEMBLY, fuel injection (See your Fiat-Allis dealer for service)
2	74337061	1	GEAR, injection pump drive
	70916382	3	CAPSCREW, 3/8"NF x 7/8"
3	74347836	1	WASHER, serrated, injection pump drive gear
4	74337224	3	STUD, injection pump attaching
	70904206	3	LOCKWASHER, 3/8"
	70910123	3	NUT, 3/8"NF
5	74335557	1	HOSE ASSEMBLY, cylinder block to injection pump (See HOSE PARTS)(Used prior to grader # 780)
	70919171	1	CONNECTOR, flare type, 1/4" tube, 1/8"NPT male
6	74339753	1	HOSE, hydraulic pump drive to injection pump(See HOSE PARTS) (Effective with grader #780)
	70919249	1	ELBOW, 90°, flare type, 1/4" tube, 1/8"NPT female
	70901467	1	NIPPLE, pipe, 1/8"NPT x 3/4"

(Revised May 1978)



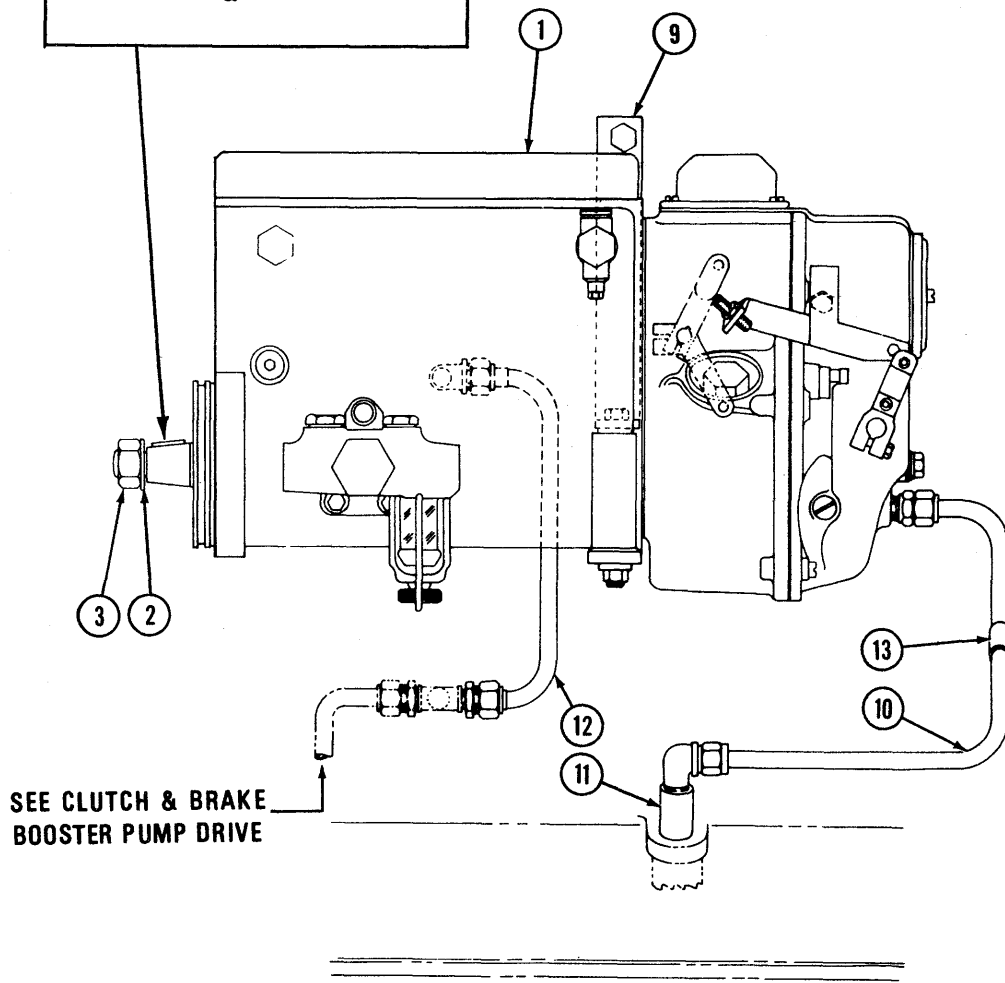
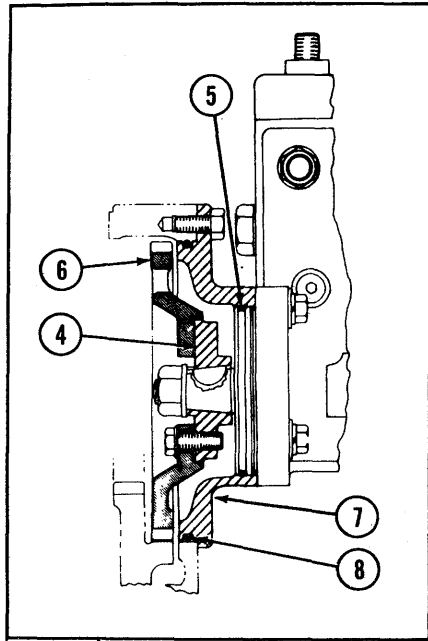
INJECTION PUMP ("Roosa Master")

T-71999

USAGE: Graders serial No. 1209 thru 5000; also 67S05001 thru 67S06588

ITEM	PART NO.	QTY.	DESCRIPTION
1	74354372	1	PUMP ASSY., injection (Engines prior to #10-14931 and #11-16230)
	74359514	1	PUMP ASSY., injection (Engine #10-14931 and up)
	74359435	1	PUMP ASSY., injection (Engines #11-16230 thru #11-16897)
	74359522	1	PUMP ASSY., injection (Original equipment. Engines #11-16898 thru #11-19792)
	74320739	1	PUMP ASSY., injection (Original equipment. Engines #11-19793 and up)
2	70910224	1	KEY, #6 woodruff, 5/32" x 5/8"(Not used with PUMP ASSY. 74320739)
3	74048596	1	SEAL, pump mounting
4	74048598	1	LOCKWASHER, gear retaining
5	74048597	1	NUT, gear retaining
6	74354362	1	GEAR, pump drive (Engines prior to #10-14931 and #11-16230; also later engines #11-17497 and up)
	74339851	1	GEAR, pump drive (Engines #10-14931 and up; also #11-16230 thru #11-17496)
7	70924139	1	□ O-RING, pump mounting cover
8	74354954	1	COVER, pump mounting
	70920473	5	CAPSCREW, Nylok, 3/8"NC x 3/4"
9	74344938	2	STUD, pump attaching
	70910123	2	NUT, 3/8"NF
10	74371718	2	WASHER, serrated

Includes items 2 thru 5. See your F-A dealer for pump service.



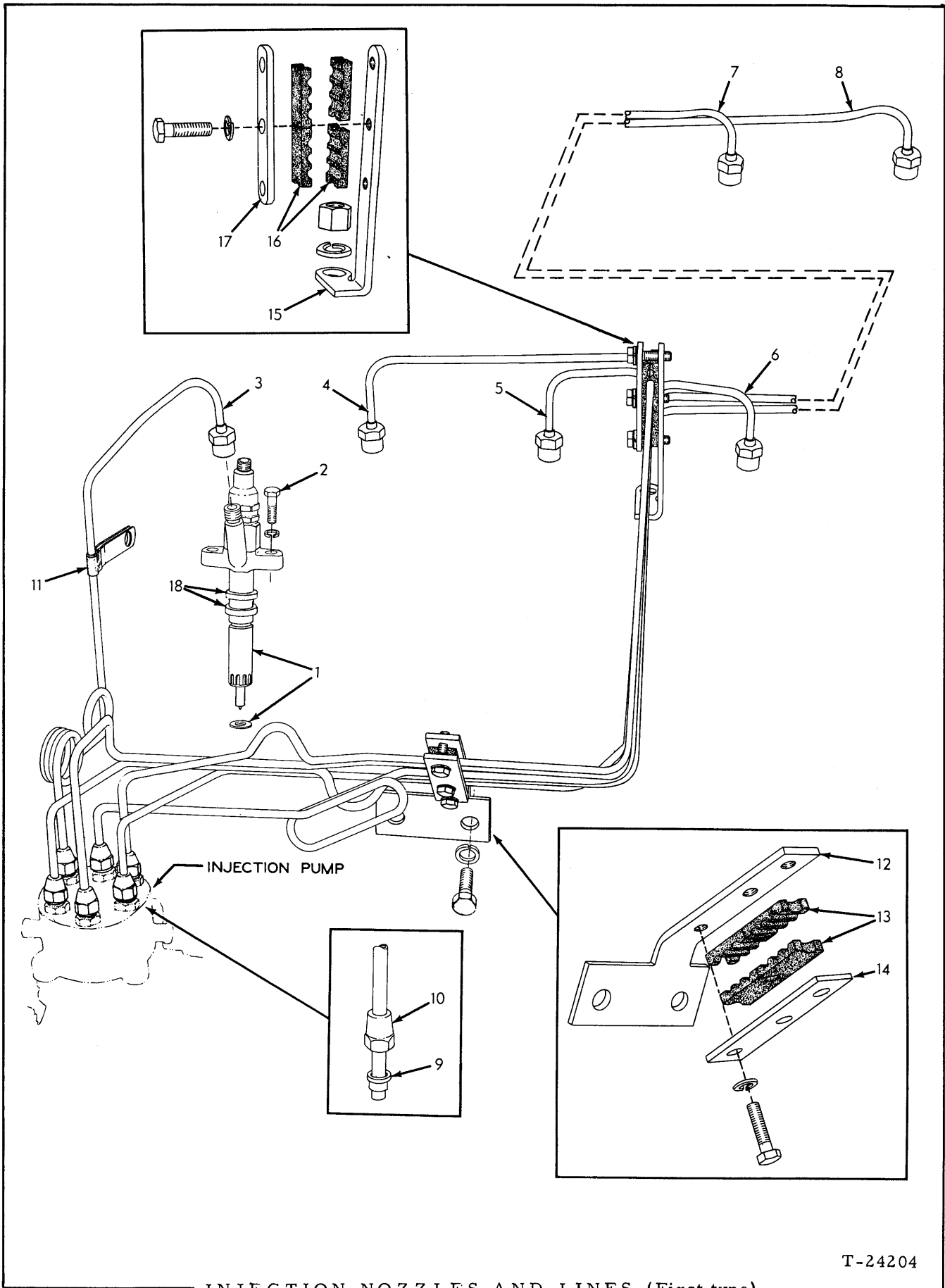
INJECTION PUMP (Bosch-Germany)

T-76304

INJECTION PUMP
(BOSCH-GERMANY)

USAGE: Graders serial No. 67S06589 and up; Engines serial No. 11-19309 and up

ITEM	PART NO.	QTY.	DESCRIPTION
1	74061285	1	PUMP KIT, injection (Includes items 2 thru 5)(Service replacement for original factory adjusted Pump Assy.No. 74359816, 74320815 and 74320939, requires calibration)
	74060141	1	KEY
	70914847	4	CAPSCREW, 3/8"NC x 1-1/2"
	70916275	1	CAPSCREW, 3/8"NC x 3-3/4"
	74344674	2	WASHER, plain
	70904206	4	LOCKWASHER, 3/8"
	70914900	4	WASHER, plain
	70910324	1	NUT, 3/8"NC
2	74060140	1	LOCKWASHER, adaptor retaining
3	74060139	1	NUT, adaptor retaining
4	74359663	1	ADAPTOR, gear mounting
5	74060799	1	O-RING, pump mounting
6	74359345	1	GEAR, pump driving
	74255060	3	CAPSCREW, 3/8"NC x 1"
7	74359911	1	COVER, pump mounting
	70918887	2	PLUG, pipe
	70920473	4	CAPSCREW, Nylok, 3/8"NC x 3/4"
	70922747	1	SETSCREW, Nylok
8	70924139	1	□ O-RING, pump mounting cover
9	74359348	1	BRACKET, pump mounting, rear
	70915408	1	CAPSCREW, 3/8"NC x 3/4"
	70904206	1	LOCKWASHER, 3/8"
10	74359661	1	TUBE ASSY. (Includes NUTS and SLEEVES)
	70917810	2	NUT, Imperial, 3/8" tube
	70917807	2	SLEEVE, Imperial, 3/8" tube (rubber)
	70920279	1	CONNECTOR, Imperial, 3/8" tube, 1/4"PT
	70920280	1	ELBOW, Imperial, 3/8" tube, 1/4"PT
11	74359667	1	PIPE
12	74359344	1	TUBE ASSY. (Includes NUT and SLEEVES)
	70917810	2	NUT, Imperial, 3/8" tube
	70917807	2	SLEEVE, Imperial, 3/8" tube
	70920790	1	ELBOW, Imperial, 3/8" tube, 1/8"PT
	70921372	1	CONNECTOR, Imperial, 3/8" tube, 1/8"NPT male
13	70659422	1	CLIP

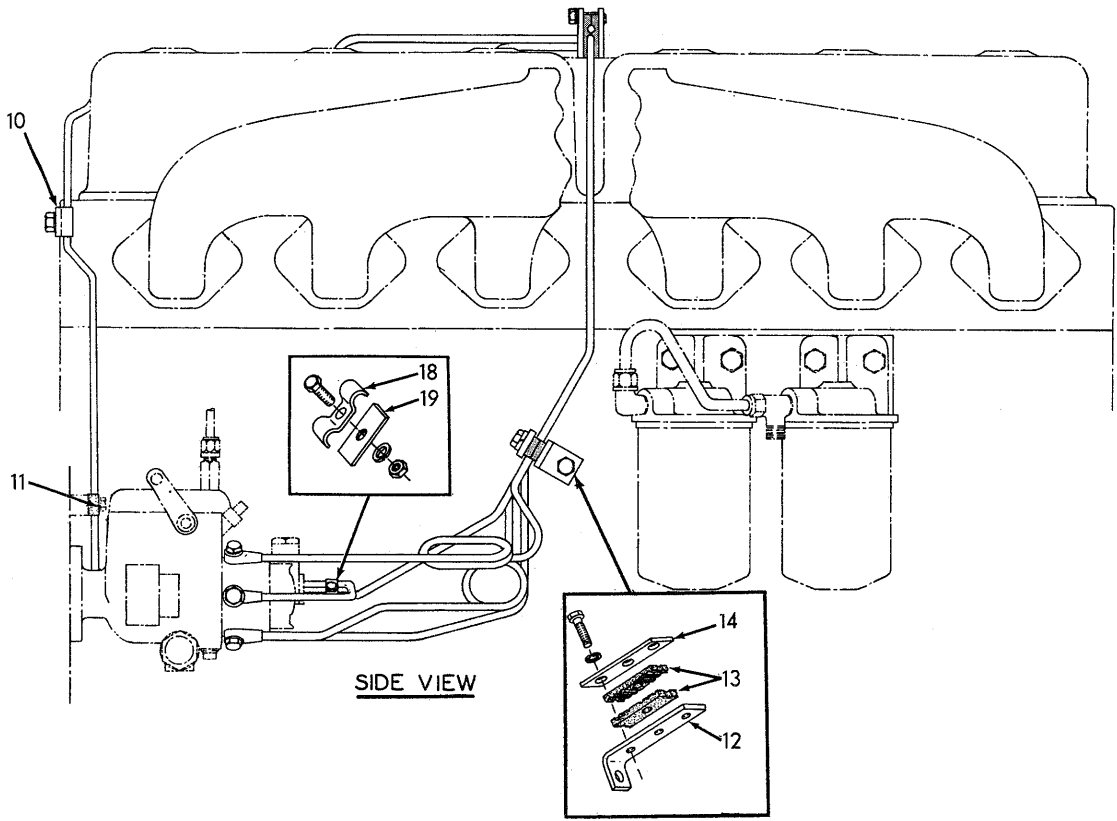
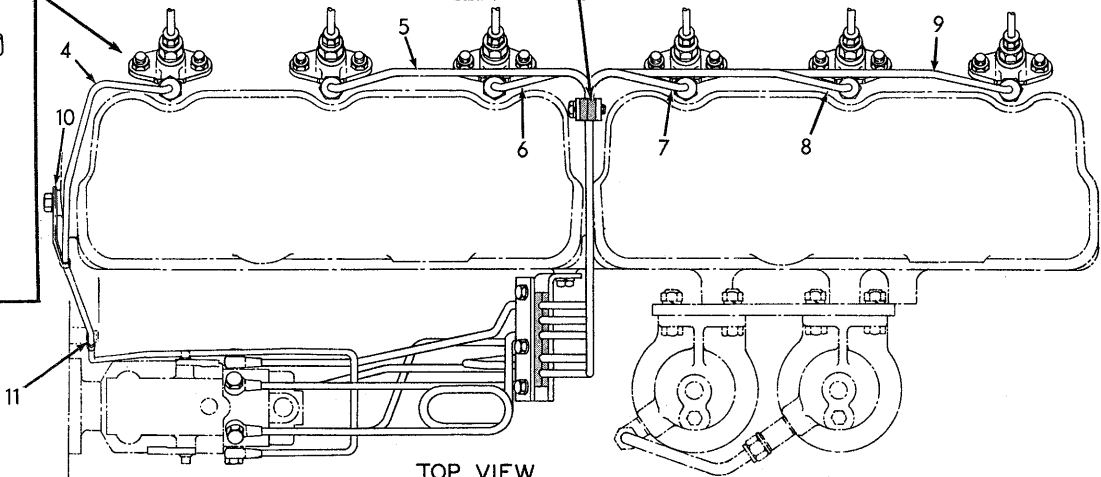
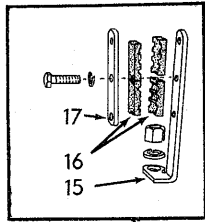
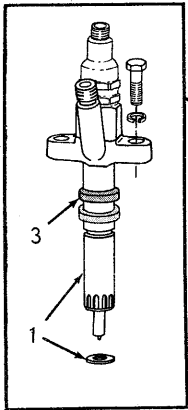


INJECTION NOZZLES AND LINES

USAGE: Graders prior to serial No. 1209

ITEM	PART NO.	QTY.	DESCRIPTION
1	74354783	6	HOLDER ASSEMBLY, injection nozzle (See page 62 for parts)
2	-----	12	STUD, injection nozzle holder (Original equipment. Order CAPSCREW 70903632)
	70910123	12	NUT, 3/8"NF
	70904206	12	LOCKWASHER, 3/8"
	70903632	12	CAPSCREW, 3/8"NC x 1-1/2"(Service replacement)
	70904206	12	LOCKWASHER, 3/8"
3	74338428	1	TUBE ASSEMBLY, fuel injection (#1 cylinder)
4	74338429	1	TUBE ASSEMBLY, fuel injection (#2 cylinder)
5	74338430	1	TUBE ASSEMBLY, fuel injection (#3 cylinder)
6	74338431	1	TUBE ASSEMBLY, fuel injection (#4 cylinder)
7	74338432	1	TUBE ASSEMBLY, fuel injection (#5 cylinder)
8	74338433	1	TUBE ASSEMBLY, fuel injection (#6 cylinder)
<u>NOTE:</u> Each Tube Assembly listed above includes Nut and Sleeve for the upper end			
9	74501149	6	SLEEVE, injection tube, lower end
10	74504409	6	NUT, injection tube, lower end
11	74255988	1	CLIP, fuel injection tube (#1 cylinder)
12	74336530	1	BRACKET, tube supporting, lower
13	74336532	2	SPACER, injection tubes, lower
14	74336531	1	PLATE, clamping, injection tubes, lower
	70914392	3	CAPSCREW, 5/16"NC x 1"
	70904205	3	LOCKWASHER, 5/16"
15	74336249	1	BRACKET, tube supporting, upper
	70910195	1	NUT, 1/2"NF
	70904208	1	LOCKWASHER, 1/2"
16	74507359	4	SPACER, injection tubes, upper
17	74336250	1	CLAMP, injection tubes, upper
	70914392	3	CAPSCREW, 5/16"NC x 1"
	70904205	3	LOCKWASHER, 5/16"
18	74025385	12	SHIELD, dirt

(Revised May 1978)



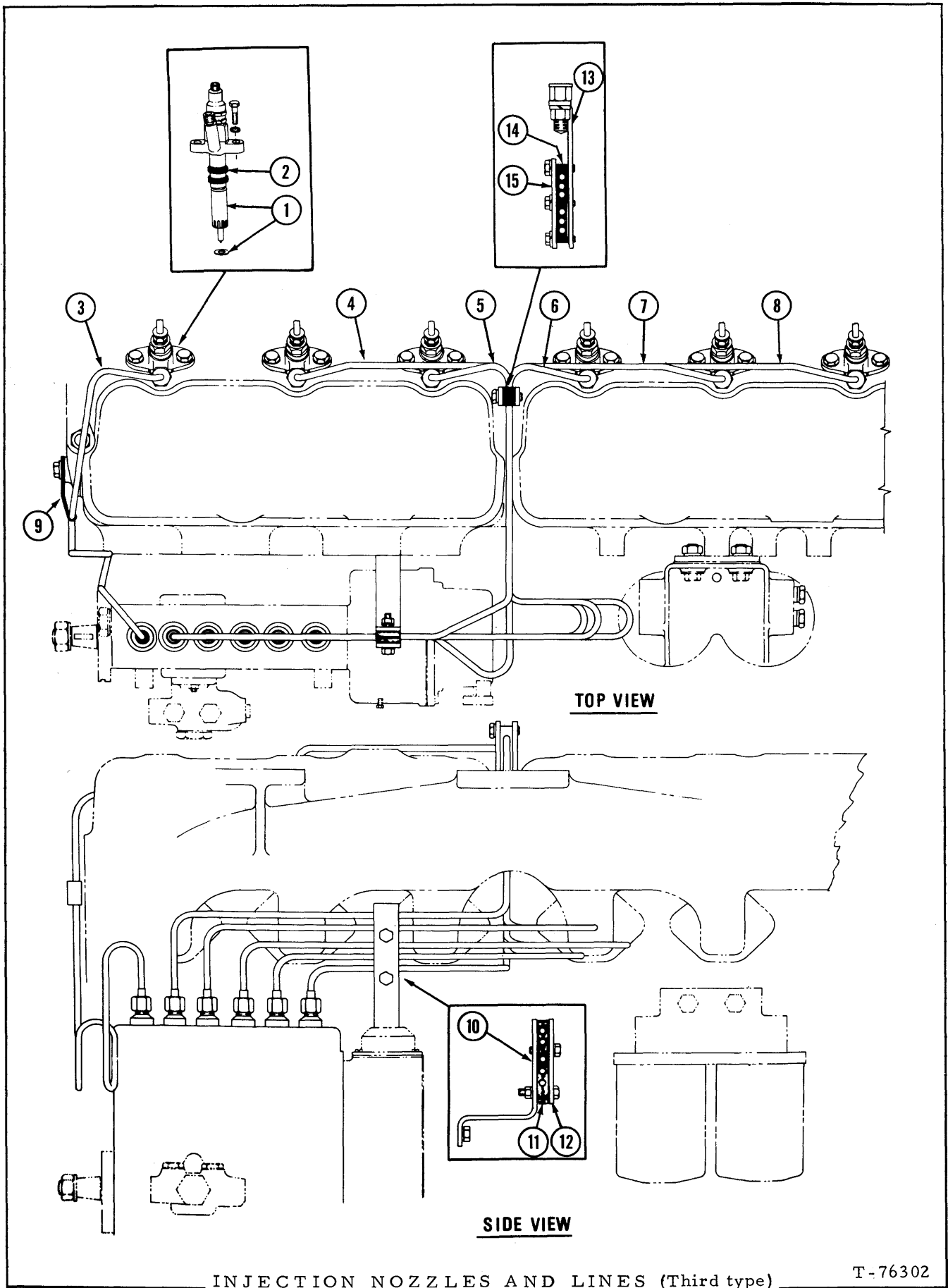
INJECTION NOZZLES AND LINES (Second type)

T-71998

INJECTION NOZZLES AND LINES

USAGE: Graders serial No. 1209 thru No. 5000; also graders serial No. 67S05001 thru 67S06588

ITEM	PART NO.	QTY.	DESCRIPTION
1	74354785	6	HOLDER ASSEMBLY, injection nozzles (See page 62)
2	-----	12	STUD, injection nozzle holder (Engines prior to #10-13903. Order CAPSCREW 70914847)
	70910123	12	NUT, 3/8"NF
	70904206	12	LOCKWASHER, 3/8"
	70914847	12	CAPSCREW, 3/8"NC x 1-1/2" (Engines #10-13903 and up; also #11-13980 and up)
	70904206	12	LOCKWASHER, 3/8"
3	74025385	12	SHIELD, dirt
4	74357434	1	TUBE, fuel injection (#1 cylinder)
5	74339559	1	TUBE, fuel injection (#2 cylinder)
6	74339560	1	TUBE, fuel injection (#3 cylinder)
7	74339561	1	TUBE, fuel injection (#4 cylinder)
8	74339562	1	TUBE, fuel injection (#5 cylinder)
9	74339563	1	TUBE, fuel injection (#6 cylinder)
10	74339207	1	CLIP, injection tube (#1 cylinder)
11	74354831	1	CLIP, injection tube (#1 cylinder)
	70916284	1	CAPSCREW, 1/4"NC x 1/2"
	70904204	1	LOCKWASHER, 1/4"
12	74339712	1	BRACKET, tube supporting, lower
	70915809	1	CAPSCREW, 5/16"NC x 3/4"
	70904205	1	LOCKWASHER, 5/16"
13	74336532	2	SPACER, injection tubes, lower
14	74336531	1	PLATE, clamping, injection tubes, lower
	70914670	3	CAPSCREW, 5/16"NC x 1-1/8"
	70904205	3	LOCKWASHER, 5/16"
15	74336249	1	BRACKET, tube supporting, upper
	70910195	1	NUT, 1/2"NF
	70904208	1	LOCKWASHER, 1/2"
16	74507359	4	SPACER, injection tubes, upper
17	74336250	1	CLAMP, injection tubes, upper
	70914670	3	CAPSCREW, 5/16"NC x 1-1/8"
	70904205	3	LOCKWASHER, 5/16"
18	74513552	1	CLAMP, injection tubes
	70916278	1	CAPSCREW, 5/16"NC x 1/2"
	70904205	1	LOCKWASHER, 5/16"
	70910323	1	NUT, 5/16"NC
19	74359106	1	PLATE, injection tube clamp



INJECTION NOZZLES AND LINES (Third type)

T-76302

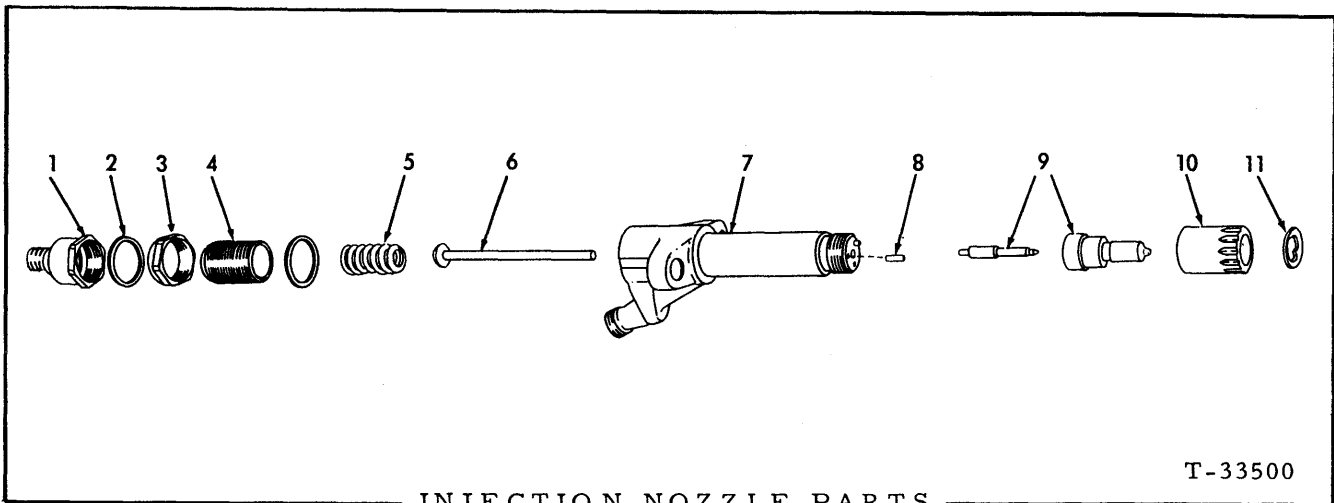
(Added July 1972)

INJECTION NOZZLES AND LINES

USAGE: Graders serial No. 67S06589 and up; Engines serial No. 11-19309 and up

ITEM	PART NO.	QTY.	DESCRIPTION
1	-----	6	HOLDER ASSY., injection nozzles (See page 62 and 63)
	0903632	12	CAPSCREW, 3/8"NC x 1-1/2"
	0904206	12	LOCKWASHER, 3/8"
2	4025385	12	SHIELD, dirt
3	4359326	1	TUBE ASSY., fuel injection (#1 cylinder)
4	4359327	1	TUBE ASSY., fuel injection (#2 cylinder)
5	4359328	1	TUBE ASSY., fuel injection (#3 cylinder)
6	4359329	1	TUBE ASSY., fuel injection (#4 cylinder)
7	4359330	1	TUBE ASSY., fuel injection (#5 cylinder)
8	4359331	1	TUBE ASSY., fuel injection (#6 cylinder)
9	4339207	1	CLIP, injection tube (#1 cylinder)
10	4359333	1	BRACKET, tube supporting, lower
	0915408	1	CAPSCREW, 3/8"NC x 3/4"
	0904206	1	LOCKWASHER, 3/8"
11	4336532	2	SPACER, injection tubes, lower
12	4339334	1	PLATE, clamping, injection tubes, lower
	0914670	1	CAPSCREW, 5/16"NC x 1-1/8"
	0916279	1	CAPSCREW, 5/16"NC x 1-1/2"
	0904205	2	LOCKWASHER, 5/16"
	0910323	1	NUT, 5/16"NC
13	4336249	1	BRACKET, tube supporting, upper
	0910195	1	NUT, 1/2"NF
	0904208	1	LOCKWASHER, 1/2"
14	4507359	2	SPACER, injection tubes, upper
15	4336250	1	CLAMP, injection tubes, upper
	0914670	3	CAPSCREW, 5/16"NC x 1-1/8"
	0904205	3	LOCKWASHER, 5/16"

(Revised May 1978)



T-33500

INJECTION NOZZLE PARTS

* HOLDER ASSY. 74354783 (See page 59)
 ** HOLDER ASSY. 74354785 (See page 61)
 *** HOLDER ASSY. 74359396 (Engines prior to serial No. 11-20377)
 (Not serviced. Order HOLDER ASSY. 74060856 and item 9) (See page 61B)

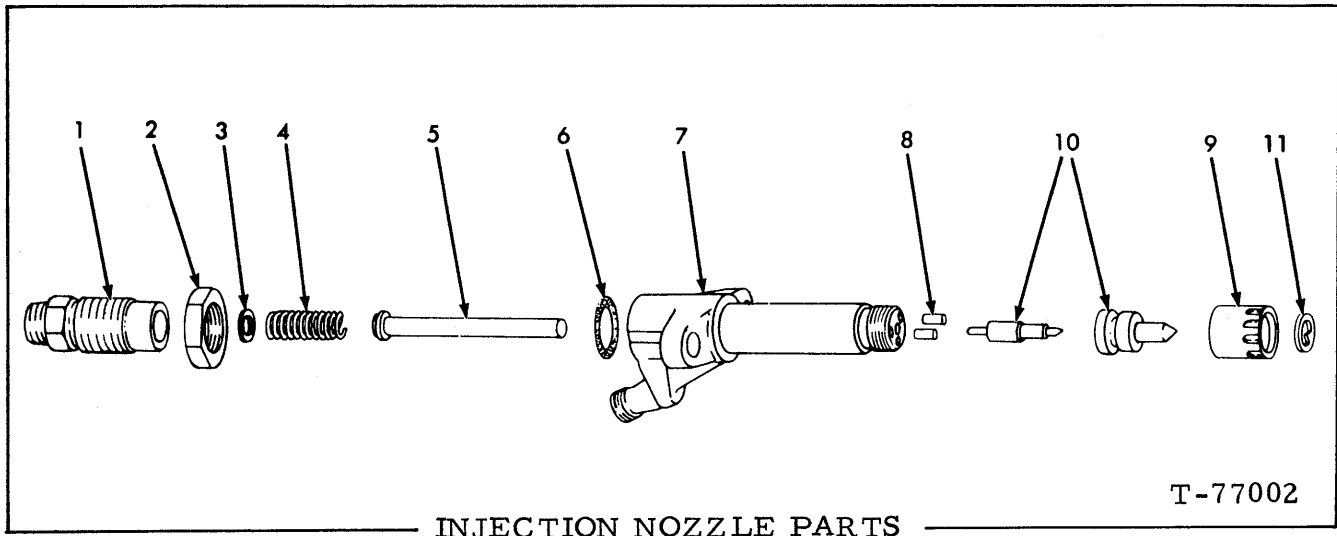
ITEM	PART NO.	QUANTITY	DESCRIPTION
		* ** ***	

NOTE: Quantities indicated are for one (1) Holder Assy. only.

-	74060856	- - 1	HOLDER ASSY. (Includes items 1 thru 8 and 10)
1	74021227	1 1 1	CAP
2	74511243	2 2 2	GASKET, cap nut
3	74511213	1 1 1	NUT, locking
4	74378033	1 1 1	SCREW, adjusting
5	74380652	1 1 1	SPRING
6	74380656	1 1 1	SPINDLE
7	-----	1 1 1	BODY (Not serviced separately)
8	{ 70922943	2 2 -	PIN, nozzle locating
	{ 74025149	- - 2	PIN, nozzle locating
9	{ 74321933	1 - -	NOZZLE ASSY. } Also order 2 Pin 74025149
	{ 74321932	- 1 -	
	{ 74321935	- - 1	
10	74380662	1 1 1	NUT, nozzle retaining
11	74378031	1 1 1	☐ GASKET, nozzle holder

Each includes item 11

(Revised May 1981)



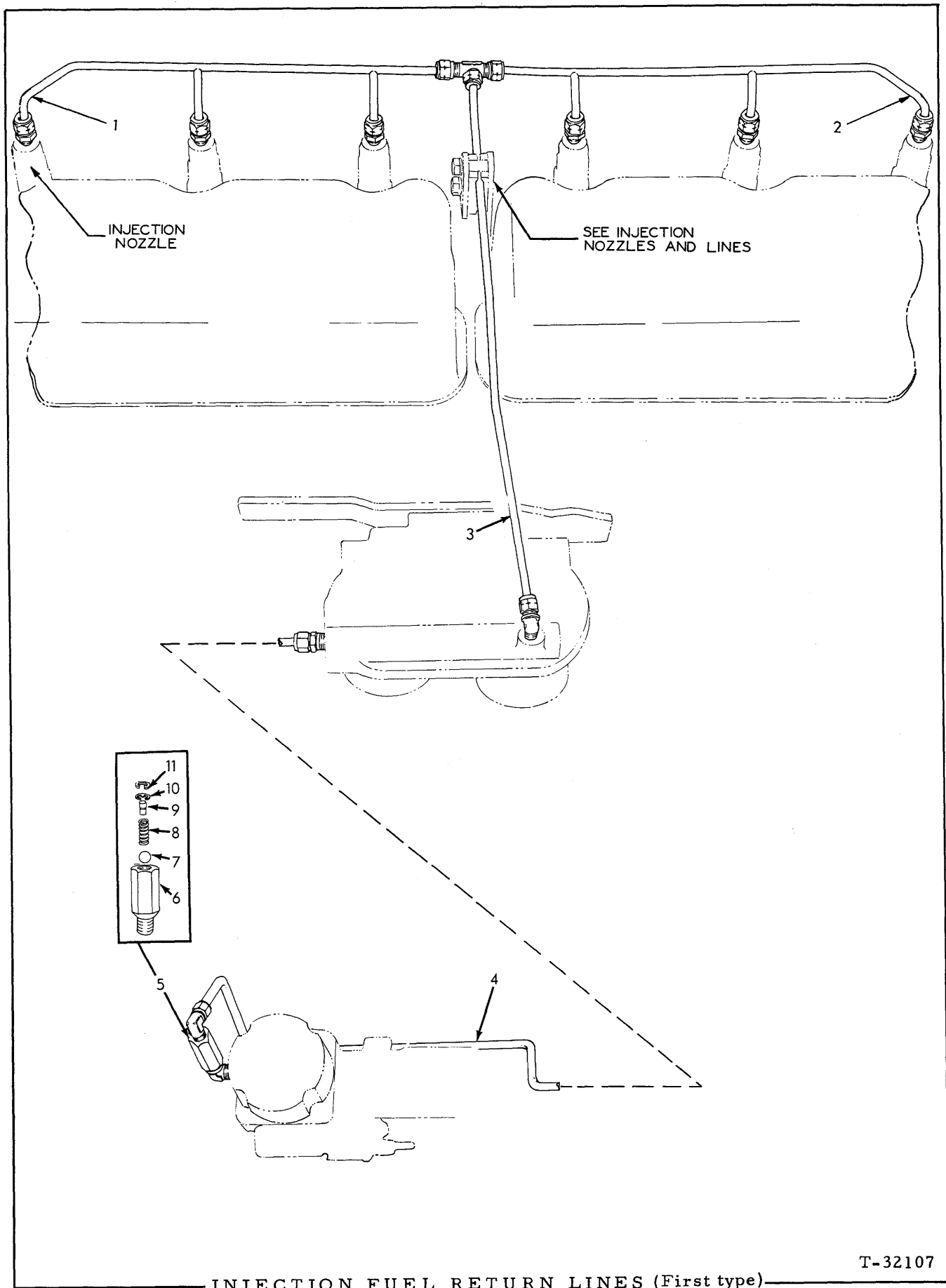
USAGE: Engines serial No. 11-20377 and up. See page 61B

ITEM PART NO. QTY. DESCRIPTION

NOTE: Quantities indicated are for one (1) HOLDER ASSY. only.

-	74320642	1	HOLDER ASSY. (Not serviced. Order HOLDER ASSY. 74060908 and item 10)
-	74060908	1	HOLDER ASSY. (Includes items 1 thru 9)
1	74023570	1	SCREW adjusting
2	74511213	1	NUT, locking
3	74023571	1	WASHER, adjusting screw
4	74380652	1	SPRING
5	74380656	1	SPINDLE
6	70930506	1	O-RING
7	-----	1	BODY (Not serviced separately)
8	74025149	2	PIN, nozzle locating
9	74380662	1	NUT, nozzle retaining
10	74321935	1	NOZZLE ASSY. (Not a component of HOLDER ASSY.)
11	74378031	1	GASKET, nozzle holder

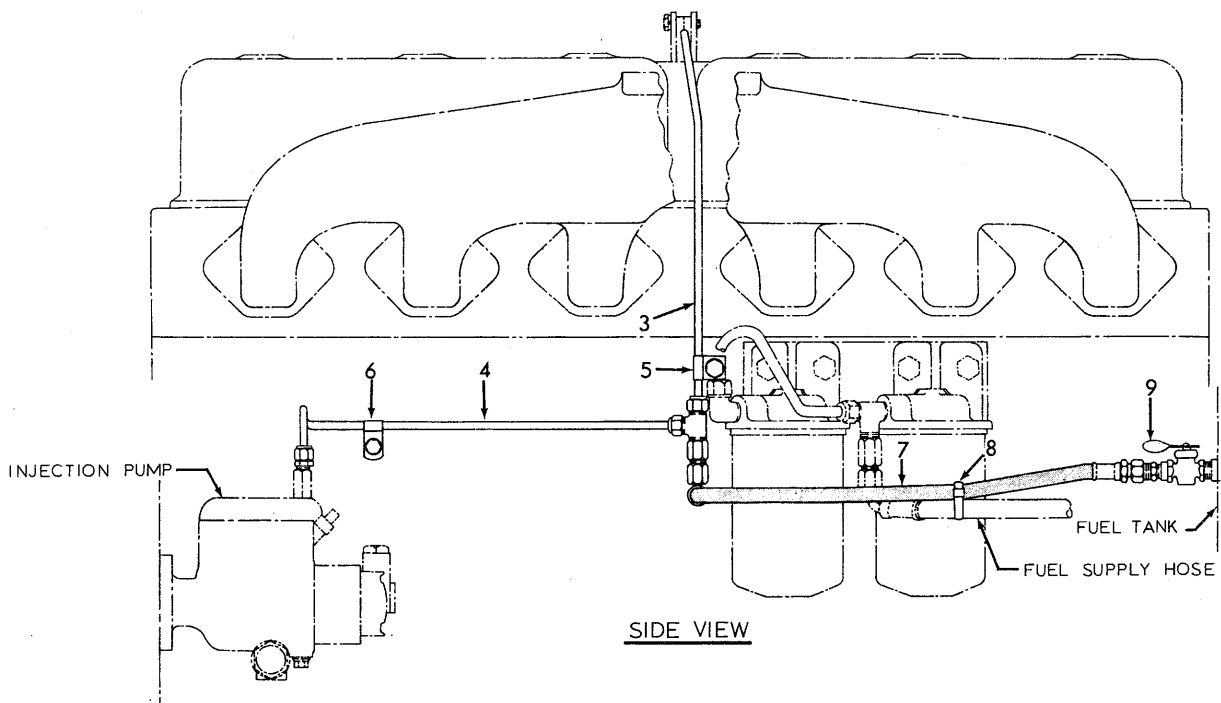
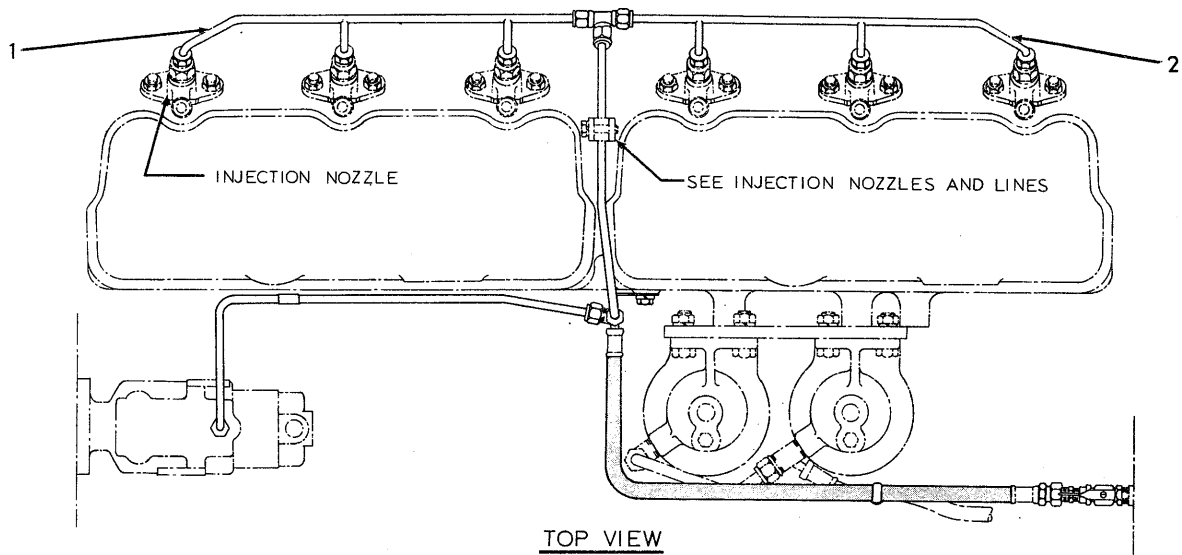
(Revised May 1981)



INJECTION FUEL RETURN LINES

USAGE: Graders prior to serial No. 1209

ITEM	PART NO.	QTY.	DESCRIPTION
1	74336546	1	MANIFOLD ASSEMBLY, front (Includes NUTS and SLEEVES indented below)
	70917809	4	NUT, Imperial, 1/4" tube
	70917806	4	SLEEVE, Imperial, 1/4" tube
	70919800	3	CONNECTOR, Imperial, 1/4" tube, 1/8"NPT male (Not used with service replacement Injection Nozzle Holder Assembly)
2	74336547	1	MANIFOLD ASSEMBLY, rear (Includes NUTS and SLEEVES indented below)
	70917809	4	NUT, Imperial, 1/4" tube
	70917806	4	SLEEVE, Imperial, 1/4" tube
	70919800	3	CONNECTOR, Imperial, 1/4" tube, 1/8" NPT male (Not used with service replacement Injection Nozzle Holder Assembly)
3	74338463	1	TUBE ASSEMBLY, manifolds to filter (Includes NUTS and SLEEVES indented below)
	70917809	2	NUT, Imperial, 1/4" tube
	70917806	2	SLEEVE, Imperial, 1/4" tube
	70919797	1	TEE, union, Imperial, 1/4" tube
	70919481	1	ELBOW, Imperial, 1/4" tube, 1/4"NPT male
4	74337223	1	TUBE ASSEMBLY, pump to filter (Includes NUTS and SLEEVES indented below)
	70919481	1	ELBOW, Imperial, 1/4" tube, 1/4"NPT male
	70917809	2	NUT, Imperial, 1/4" tube
	70917806	2	SLEEVE, Imperial, 1/4" tube
	70920242	1	CONNECTOR, Imperial, 1/4" tube, 1/4"NPT male
5	74337015	1	VALVE ASSEMBLY, pressure relief (Consists of items 6 thru 11)
	70914588	1	ELBOW, street, brass, 90°, 1/4"NPT
6	-----	1	BODY, relief valve (Not serviced separately)
7	74337022	1	BALL, relief valve
8	74337023	1	SPRING, relief valve
9	74337019	1	STOP, relief valve
10	74255017	1	E-RING, relief valve stop
11	74255020	1	RING, snap, relief valve



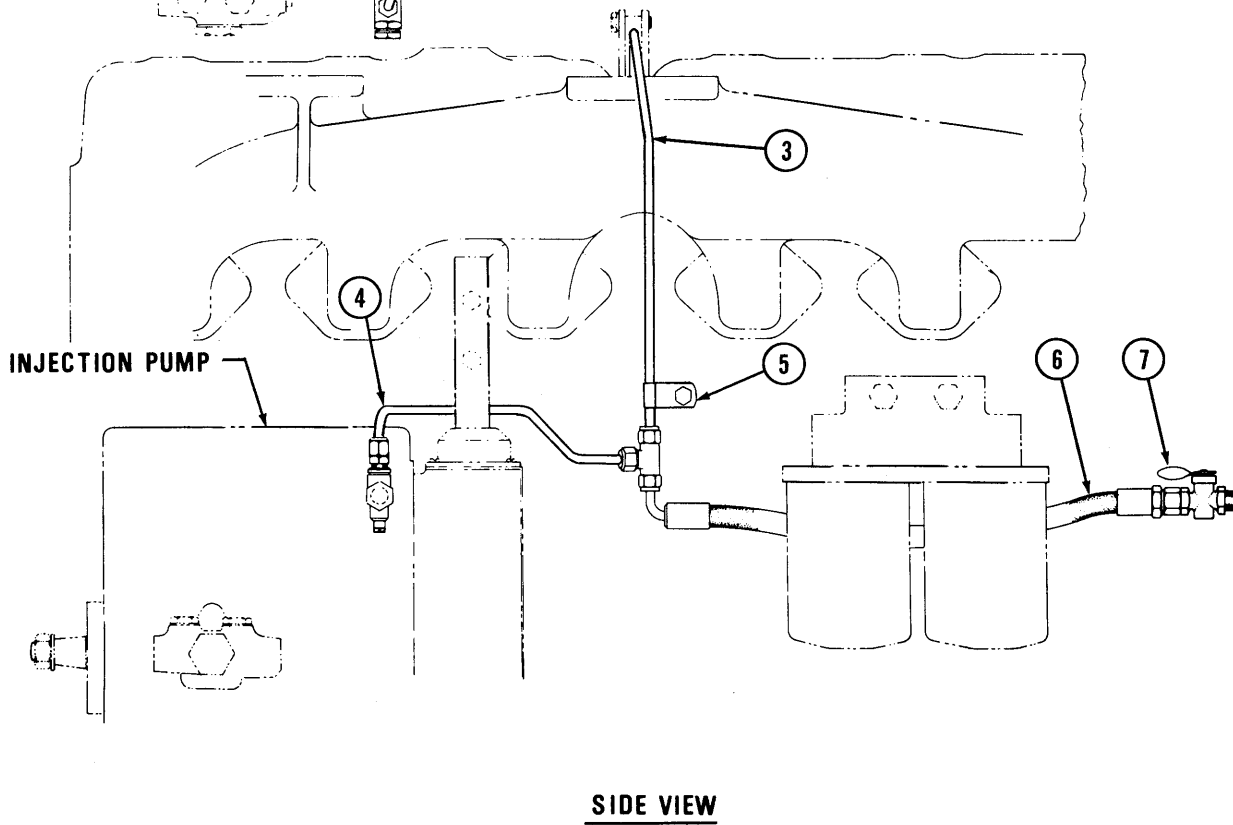
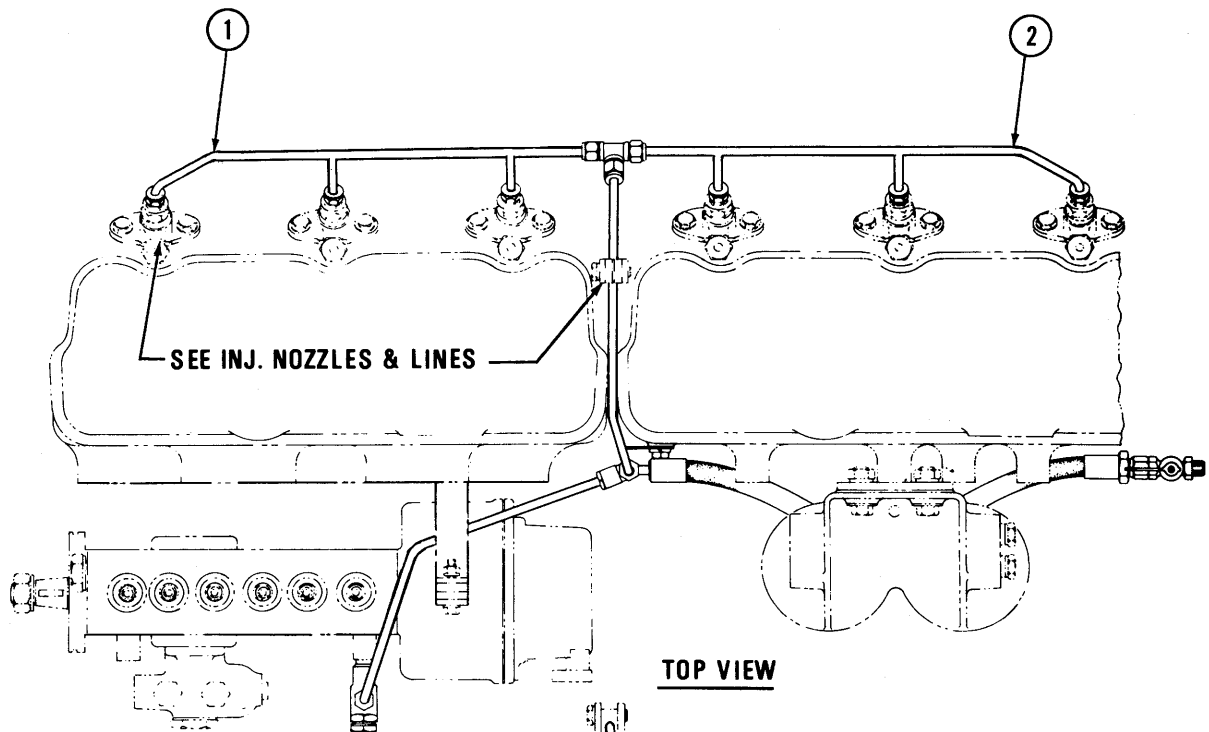
INJECTION FUEL RETURN LINES (Second type)

T-71997

INJECTION FUEL RETURN LINES

USAGE: Graders serial No. 1209 thru No. 5000; also Graders serial No. 67S05001 thru 67S06588

ITEM	PART NO.	QTY.	DESCRIPTION
1	74336546	1	MANIFOLD ASSEMBLY, front (Includes NUTS and SLEEVES indented below)
	70917809	4	NUT, Imperial, 1/4" tube
	70917806	4	SLEEVE, Imperial, 1/4" tube
	70919800	3	CONNECTOR, Imperial, 1/4" tube, 1/8"NPT male (Not used with service replacement Injection Nozzle Holder Assembly)
2	74336547	1	MANIFOLD ASSEMBLY, rear (Includes NUTS and SLEEVES indented below)
	70917809	4	NUT, Imperial, 1/4" tube
	70917806	4	SLEEVE, Imperial, 1/4" tube
	70919800	3	CONNECTOR, Imperial, 1/4" tube, 1/8"NPT male (Not used with service replacement Injection Nozzle Holder Assembly)
3	74339691	1	TUBE ASSEMBLY, manifold return (Includes NUTS and SLEEVES indented below)
	70917809	2	NUT, Imperial, 1/4" tube
	70917806	2	SLEEVE, Imperial, 1/4" tube
	70919797	1	TEE, union, Imperial, 1/4" tube
	70920411	1	TEE, service, Imperial, 1/4" tube, 1/8"NPT male
4	74339690	1	TUBE, pump return
	70917809	2	NUT, Imperial, 1/4" tube
	70917806	2	SLEEVE, Imperial, 1/4" tube
	70919800	1	CONNECTOR, Imperial, 1/4" tube, 1/8"NPT male
5	74339949	1	CLAMP, manifold return tube
	70916277	1	CAPSCREW, 5/16"NC x 5/8"
	70904205	1	LOCKWASHER, 5/16"
6	74253435	1	CLIP, pump return tube
	70916277	1	CAPSCREW, 5/16"NC x 5/8"
	70904205	1	LOCKWASHER, 5/16"
7	70666557	1	HOSE, fuel return (See HOSE PARTS)
	70919174	1	CONNECTOR, flare type, 1/4" tube, 1/8"NPT female
	70919140	1	CONNECTOR, flare type, 1/4" tube, 1/4"NPT male
8	70239726	1	TIE, hose supporting (plastic)(Graders prior to #2192)
9	70099433	1	COCK, fuel shut-off (1/4"NPT male and female)



INJECTION FUEL RETURN LINES (Third type)

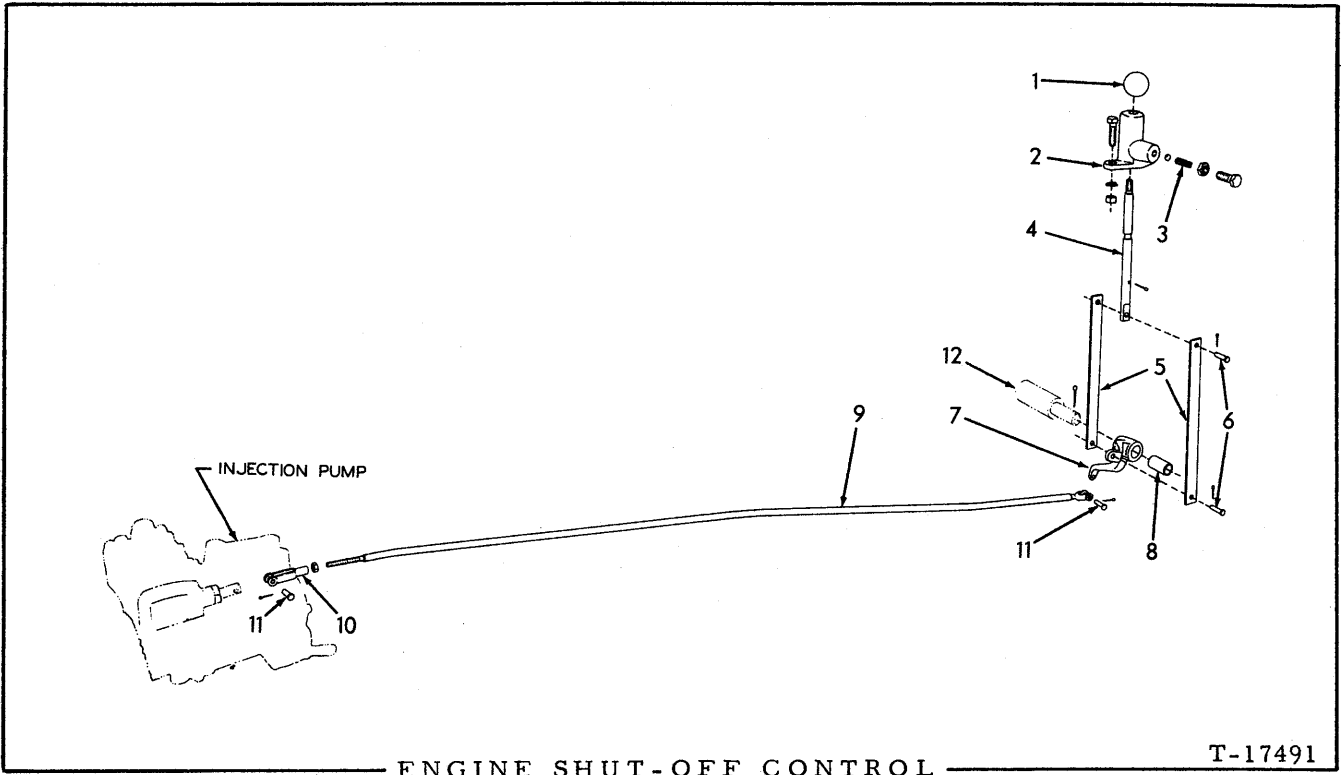
T-76303
(Added July 1972)

INJECTION FUEL RETURN LINES

USAGE: Graders serial No. 67S06589 and up; Engines serial No. 11-19309 and up

ITEM	PART NO.	QTY.	DESCRIPTION
1	74336680	1	MANIFOLD, front
	70917809	4	NUT, Imperial, 1/4" tube
	70917806	4	SLEEVE, Imperial, 1/4" tube
2	74336681	1	MANIFOLD, rear
	70917809	4	NUT, Imperial, 1/4" tube
	70917806	4	SLEEVE, Imperial, 1/4" tube
3	74359678	1	TUBE, manifold return
	70917809	2	NUT, Imperial, 1/4" tube
	70917806	2	SLEEVE, Imperial, 1/4" tube
	70919797	1	TEE, union, Imperial, 1/4" tube
	70920411	1	TEE, service, Imperial, 1/4" tube, 1/8"NPT male
4	74359337	1	TUBE, pump return
	70917809	2	NUT, Imperial, 1/4" tube
	70917806	2	SLEEVE, Imperial, 1/4" tube
	70919800	1	CONNECTOR, Imperial, 1/4" tube, 1/8"NPT male
5	74339949	1	CLAMP, manifold return tube
	70916277	1	CAPSCREW, 5/16"NC x 5/8"
	70904205	1	LOCKWASHER, 5/16"
6	70666557	1	HOSE, fuel return (See HOSE PARTS)
	70919174	1	CONNECTOR, flare type, 1/4" tube, 1/8"NPT female
	70919140	1	CONNECTOR, flare type, 1/4" tube, 1/4"NPT male
7	70099433	1	COCK, fuel shut-off (1/4"NPT male and female)

(Added July 1972)

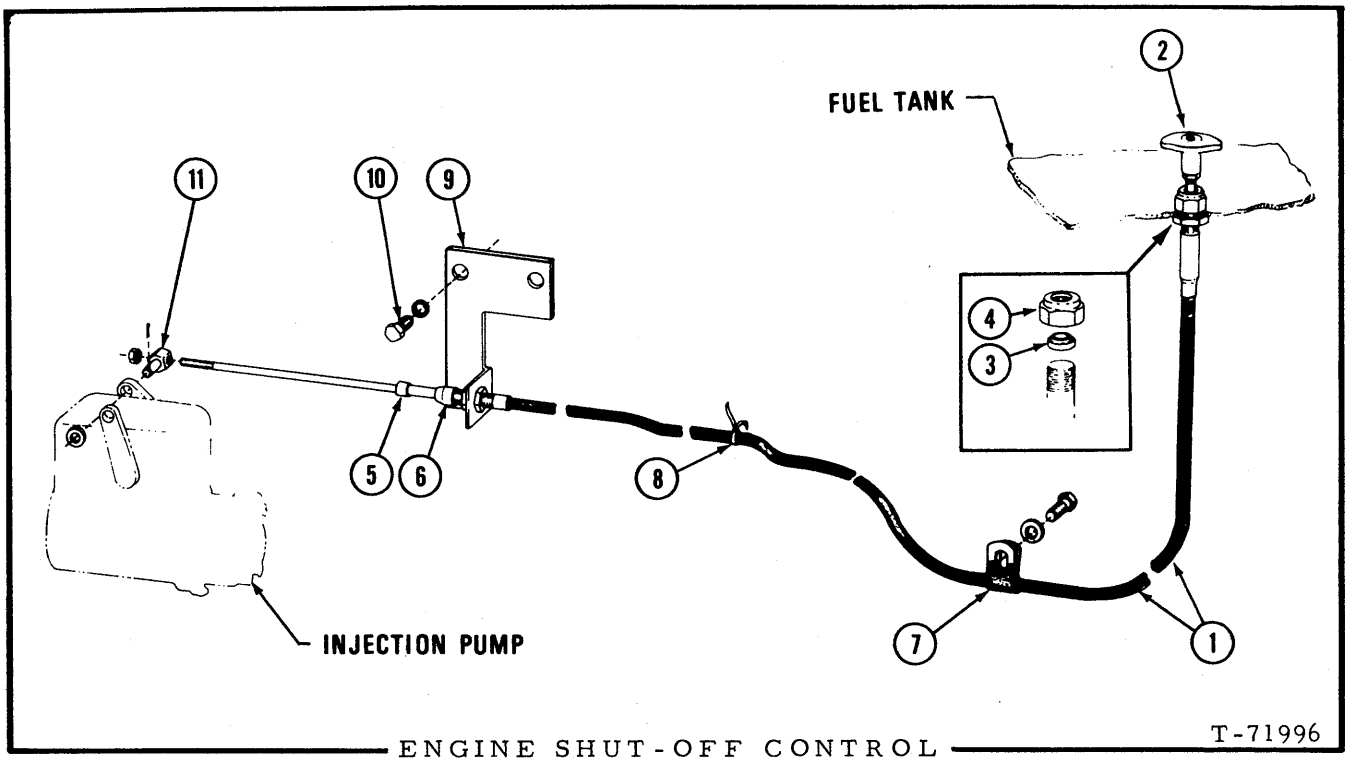


ENGINE SHUT-OFF CONTROL

T-17491

USAGE: Graders prior to serial No. 1209

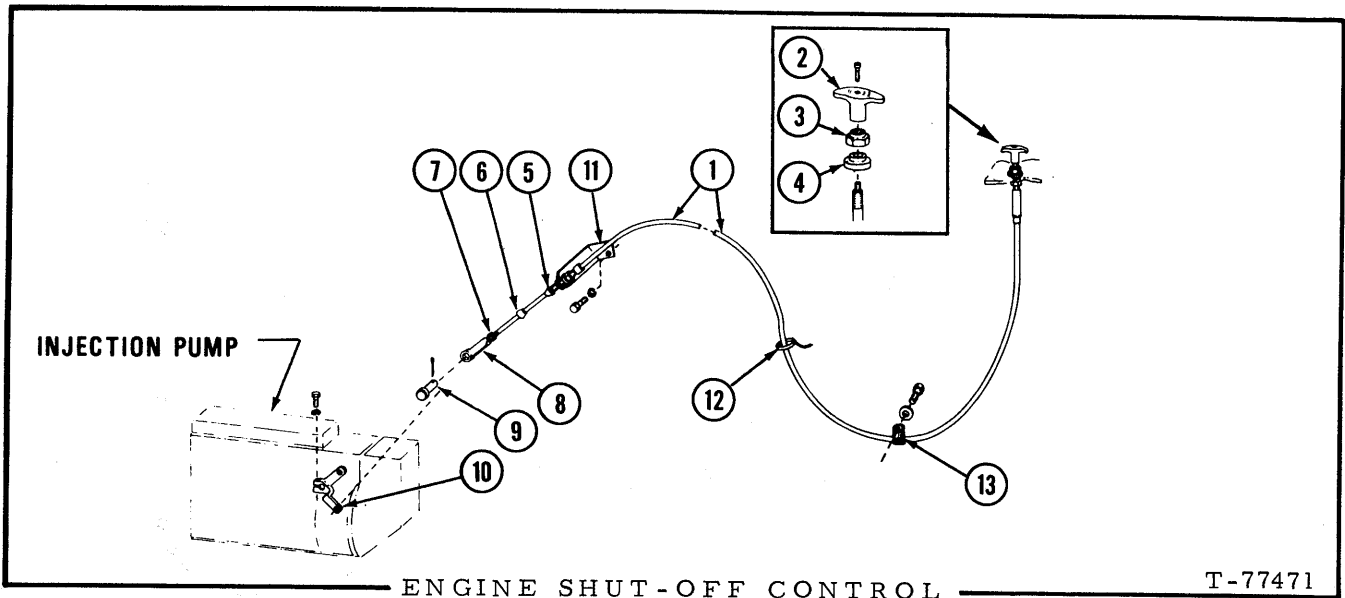
ITEM	PART NO.	QTY.	DESCRIPTION
1	70091855	1	KNOB, control shaft
2	70086425	1	BRACKET, control shaft
	70903631	2	CAPSCREW, 3/8"NC x 1-1/4"
	70904206	2	LOCKWASHER, 3/8"
	70911026	2	NUT, 3/8"NC
3	70050975	1	SPRING, control shaft
	70913729	1	CAPSCREW, 7/16"NF x 1"
	70910876	1	NUT, jam, 7/16"NF
	70905360	1	BALL, steel, 3/8"diam.
4	70086547	1	SHAFT, control
	70900805	1	PIN, cotter, 1/8" x 3/4"
5	70089693	2	LINK, control shaft
6	70628738	2	PIN, control shaft link
	70900970	2	PIN, cotter, 1/16" x 1/2"
7	70089689	1	BELLCRANK ASSEMBLY (Includes item 8)
	70900806	1	PIN, cotter, 1/8" x 1"
8	70065172	1	BUSHING, bellcrank
9	70621773	1	ROD, control
	70911040	1	NUT, 1/4"NF
10	70628737	1	YOKE, control rod
11	70628738	2	PIN, control rod yoke
	70900970	2	PIN, cotter, 1/16" x 1/2"
12	-----	-	PIN, bellcrank pivot (Welded to seat frame)



USAGE: Graders serial No. 1209 thru No. 5000; also graders serial No. 67S05001 thru 67S06588. Used prior to Engine serial No. 11-19309

ITEM	PART NO.	QTY.	DESCRIPTION
1	70659123	1	CABLE ASSY. (Includes items 2 thru 6 and hardware indented below)
	70922471	3	NUT, 7/16"NF
	70922844	1	LOCKWASHER, internal tooth, 7/16"
	70926190	2	WASHER, plain
	70917415	1	NUT, #10-32NF
2	70666359	1	T-HANDLE, control cable
3	70657709	1	SEAL, control cable
4	70657707	1	NUT, seal retaining
5	70680580	1	SEAL
6	70680581	1	SEAL
7	70639314	1	CLIP, cable supporting
	70922300	1	CAPSCREW, 3/8"NC x 3/4"
	70911115	1	WASHER, plain, SAE std., 3/8"
8	70239726	1	TIE, cable supporting
9	70650317	1	BRACKET, cable supporting
10	70922925	2	CAPSCREW, 5/16"NC x 3/4"
	70677005	2	LOCKWASHER, 5/16"
11	70242038	1	PIN, shut-off cable
	70914686	1	WASHER, plain, 9/16" (copper)
	70900970	1	PIN, cotter, 1/16" x 1/2"

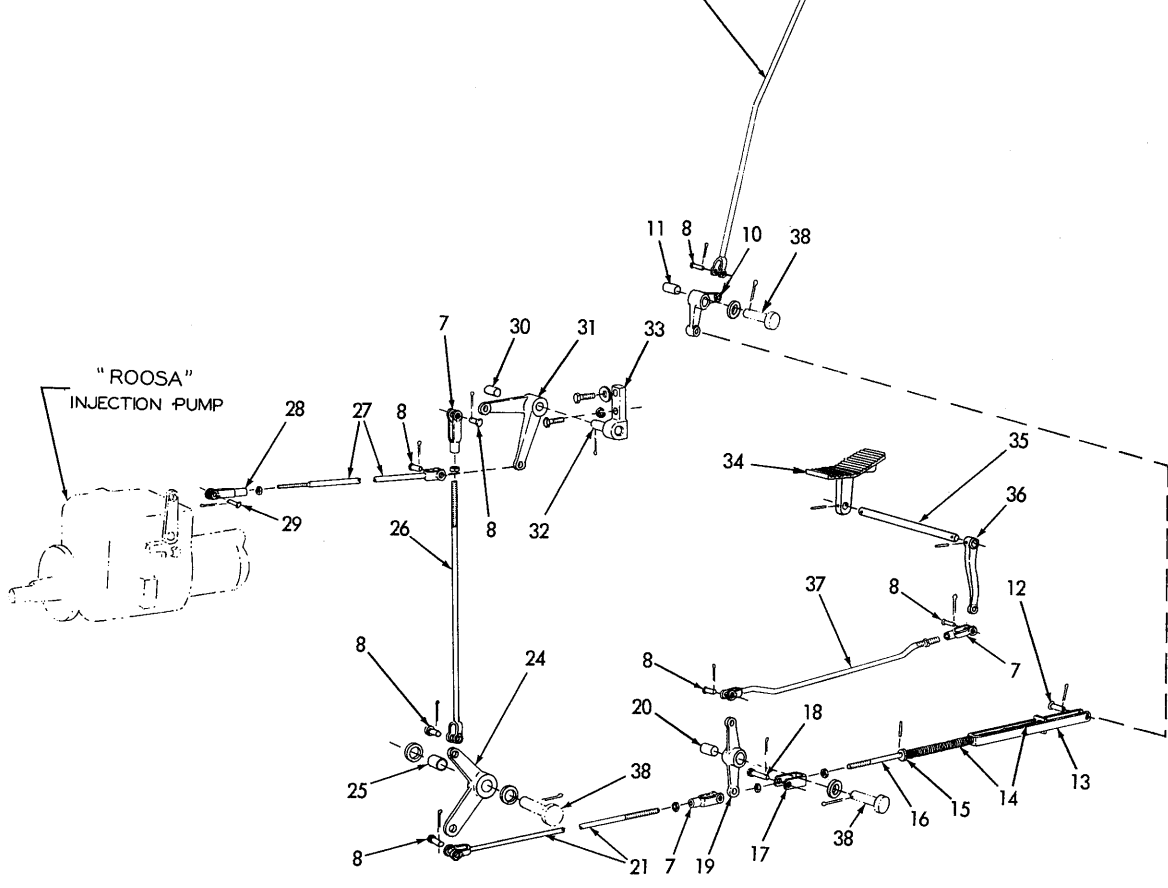
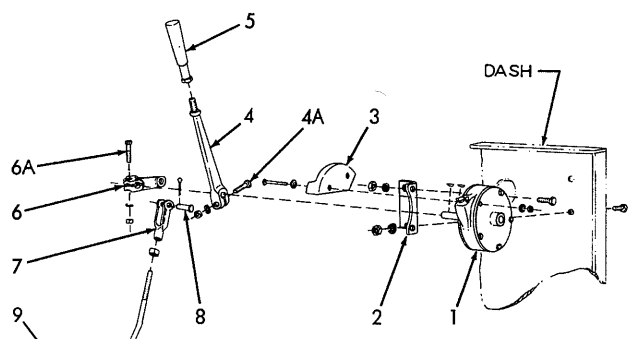
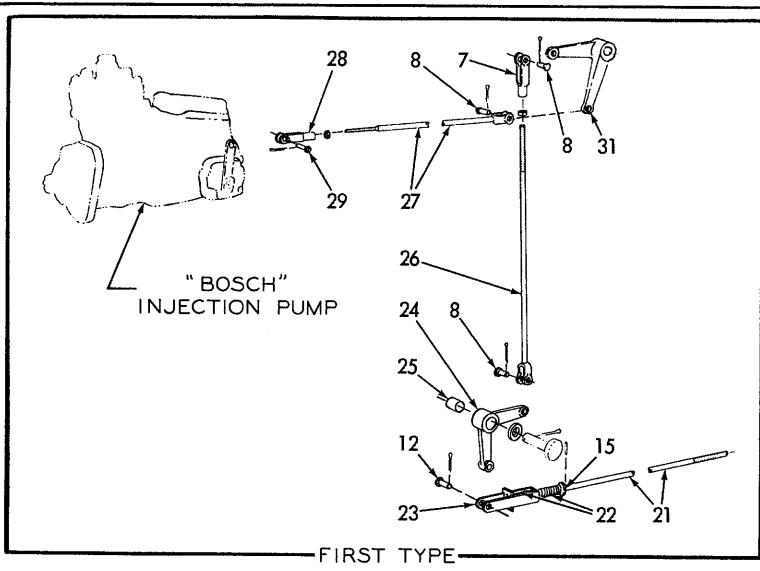
(Revised July 1972)



USAGE: Graders serial No. 67S06589 and up; Engines serial No. 11-19309 and up.

ITEM	PART NO.	QTY.	DESCRIPTION
1	73057138	1	CABLE ASSY. (Includes items 2 thru 7 and hardware indented below)
	70922014	1	NUT, jam, 5/8"NF
	70918906	1	LOCKWASHER, internal tooth, 5/8"
	70922471	2	NUT, jam, 7/16"NF
	70928495	2	WASHER, plain
2	70197211	1	HANDLE
	70901781	1	SCREW
3	73057777	1	NUT
4	73057778	1	SEAL
5	73057780	1	SEAL
6	73057779	1	SEAL
7	73057781	1	NUT
8	70196606	1	CLEVIS ASSY. (Includes item 9)
9	70628738	1	PIN
	70900970	1	PIN, cotter, 1/16" x 1/2"
10	74393260	1	LEVER ASSY.
	70916277	1	CAPSCREW, 5/16"NC x 5/8"
	70904205	1	LOCKWASHER, 5/16"
11	73057137	1	BRACKET
	70922925	2	CAPSCREW, 5/16"NC x 3/4"
	70677005	2	WASHER
12	70196765	1	TIE
13	70639314	1	CLIP
	70922300	1	CAPSCREW, 3/8"NC x 3/4"
	70911115	1	WASHER, plain, SAE std., 3/8"

(Added July 1972)



THROTTLE CONTROL

T-17492

THROTTLE CONTROL

* Graders prior to serial No. 1209

** Graders serial No. 1209 thru 5000; also graders serial No. 67S05001 and up

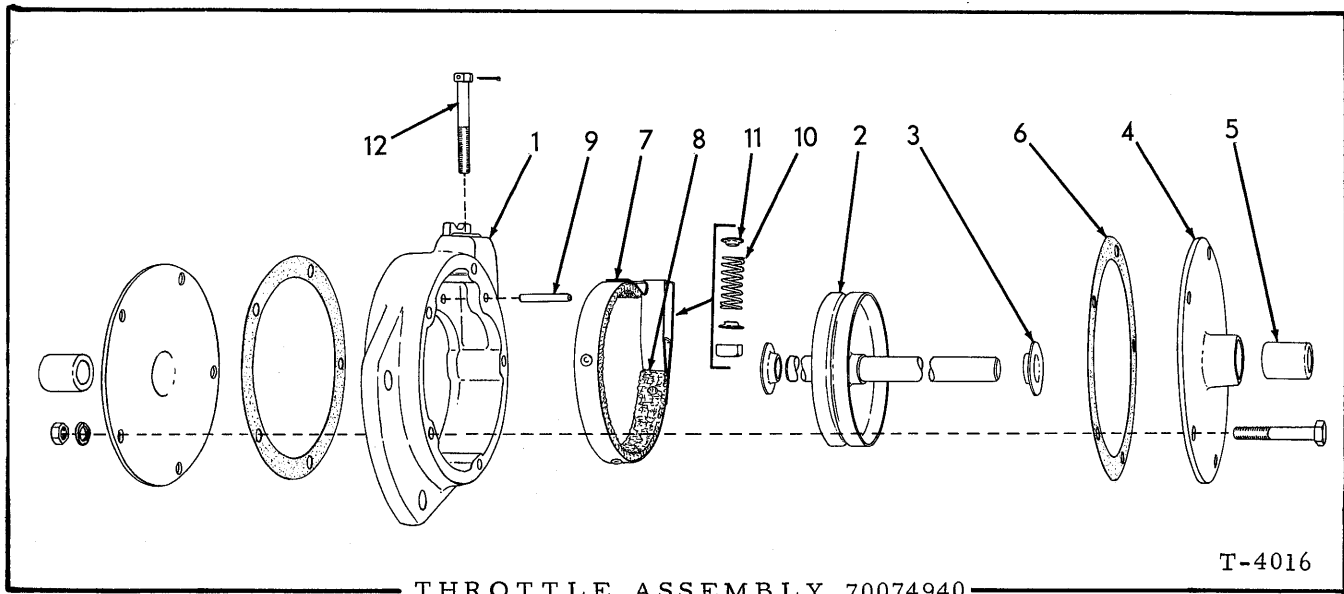
ITEM	PART NO.	QTY.		DESCRIPTION
		*	**	
1	70074940	1	1	THROTTLE ASSY. (See page 73 for parts)
	70921076	2	2	CAPSCREW, 3/8" NC x 1-1/4"
	70910287	2	2	LOCKWASHER, 3/8"
	70911026	2	2	NUT, 3/8" NC
2	70621079	1	1	BRACKET, throttle attaching
	70922262	2	2	CAPSCREW, 3/8" NC x 7/8"
	70910287	2	2	LOCKWASHER, 3/8"
3	70081760	1	1	BRACKET (Graders prior to unit #6589)
	70682325	-	1	BRACKET, operating lever stop (Graders unit #6589 and up)
	70928305	2	2	CAPSCREW, 1/4" NF x 2"
	70911114	2	2	WASHER, plain, SAE std., 1/4"
	70904204	2	2	LOCKWASHER, 1/4"
	70911040	2	2	NUT, 1/4" NF
4	70074952	1	1	LEVER, operating
	70905121	1	1	KEY, #5 woodruff, 1/8" x 5/8"
4A	70924778	1	1	CAPSCREW, 3/8" NF x 1-5/8"
	70910287	1	1	LOCKWASHER, 3/8"
	70911041	1	1	NUT, 3/8" NF
5	70078620	1	1	GRIP, operating lever
6	70081619	1	1	LEVER, throttle control
	70905121	1	1	KEY, #5 woodruff, 1/8" x 5/8"
6A	70928306	1	1	CAPSCREW, 5/16" NF x 1-1/2"
	70910286	1	1	LOCKWASHER, 5/16"
	70913636	1	1	NUT, 5/16" NF
7	70628736	4	4	YOKE, adjustable, control rods (3/8" NF)
8	70078810	7	8	PIN, control rod yokes
	70900942	7	8	PIN, cotter, 3/32" x 3/4"
9	70629441	1	1	ROD, throttle control, front (vertical)
	70911041	1	1	NUT, 3/8" NF
10	70097277	1	1	BELLCRANK ASSY., front (Includes item 11)
11	70097273	1	1	BUSHING, front bellcrank
12	70082875	2	1	PIN, yoke, control rod (3/8" x 1-5/16")
	70900942	2	1	PIN, cotter, 3/32" x 5/8"
13	70086643	1	1	YOKE, sliding, front control rod (13" long)
14	70086646	2	2	SPRING, front control rod
15	70044973	2	1	WASHER, bearing, control rod springs
16	70086657	1	1	ROD, throttle control, front (horizontal)
	70916202	1	1	PIN, spring, 1/8" x 7/8"
	70911041	2	2	NUT, 3/8" NF
17	70084732	1	1	YOKE, front control rod (2-1/4" long)
18	70085038	1	1	PIN, control rod yokes
	70900942	1	1	PIN, cotter, 3/32" x 5/8"

(Continued)

(Revised May 1978)

THR OTTLE CONTROL (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
		* **	
19	70097275	1 1	BELLCRANK ASSY, intermediate (Includes item 20)
20	70097273	1 1	BUSHING, intermediate bellcrank
21	70086655	1 -	ROD, throttle control, intermediate (horizontal)
	70650439	- 1	ROD, throttle control, intermediate (horizontal)
	70916202	1 -	PIN, roll, 1/8" x 7/8"
	70911041	1 1	NUT, 3/8" NF
22	70035910	2 -	SPRING, intermediate control rod
23	70078967	1 -	YOKE, sliding, intermediate control rod (4-1/4" long)
24	70097276	1 -	BELLCRANK ASSY., lower rear (Includes item 25)
	70650447	- 1	BELLCRANK ASSY., lower rear (Includes item 25)(Graders prior to unit #6589)
	70679778	- 1	BELLCRANK ASSY., lower rear (Includes item 25)(Graders unit #6589 and up)
25	70097273	1 -	BUSHING, lower bellcrank
	70650849	- 1	BUSHING, lower bellcrank
26	70086638	1 -	ROD, throttle control, rear (vertical)
	70650436	- 1	ROD, throttle control, rear (vertical)(Graders prior to unit #6589)
	70679793	- 1	ROD, throttle control, rear (vertical)(Graders unit #6589 and up)
27	70621075	1 -	ROD, throttle control, rear (horizontal)
	70650445	- 1	ROD, throttle control, rear (horizontal)(Graders prior to unit #6589)
	70679784	- 1	ROD, throttle control, rear (horizontal)(Graders unit #6589 and up)
	70911040	1 1	NUT, 1/4" NF
28	70628737	1 1	YOKE, rear throttle rod (1/4" NF)
29	70628738	1 1	PIN, rear throttle rod yoke
	70900970	1 1	PIN, cotter, 1/16" x 1/2"
29A	74393286	- 1	LEVER ASSY., throttle control (Graders unit #6589 and up) (Not illustrated)
30	70065169	1 1	BUSHING, bellcrank
31	70086576	1 1	BELLCRANK ASSY., upper rear (Includes item 30)
32	70086578	1 1	PIN, bellcrank supporting bracket
	70900806	1 1	PIN, cotter, 1/8" x 1"
33	70086579	1 1	BRACKET ASSY., bellcrank supporting (Includes item 32)
	70927173	2 2	CAPSCREW, 3/8" NC x 1-1/8"
	70910287	1 1	LOCKWASHER, 3/8"
	70911115	1 1	WASHER, plain, SAE std., 3/8"
34	70086647	1 1	PEDAL, foot, throttle control
	70915797	1 1	PIN, roll, 3/16" x 1-1/4"
35	70629443	1 1	SHAFT, cross
36	70086645	1 1	LEVER, throttle control, foot
	70915711	1 1	PIN, roll, 3/16" x 7/8"
37	70629442	1 1	ROD, foot throttle
	70911041	1 1	NUT, 3/8" NF
38	-----	3 3	PIN, bellcrank fulcrum (welded to frame)
	70900806	3 3	PIN, cotter, 1/8" x 1"
	70911100	3 4	WASHER, plain, SAE std., 5/8"

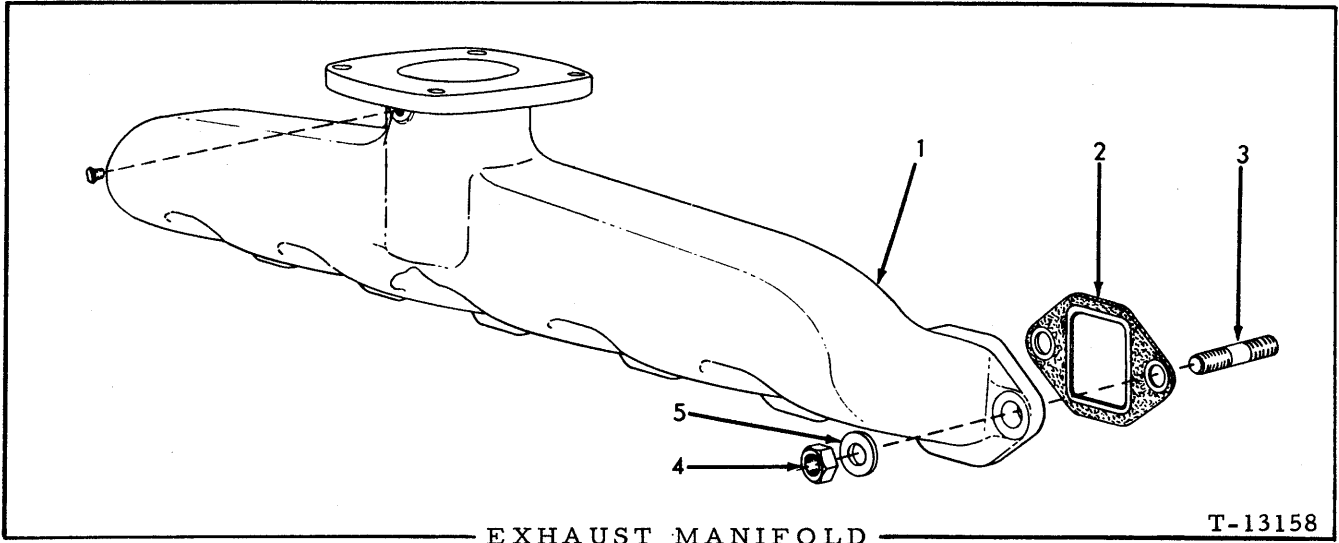


THROTTLE ASSEMBLY 70074940

T-4016

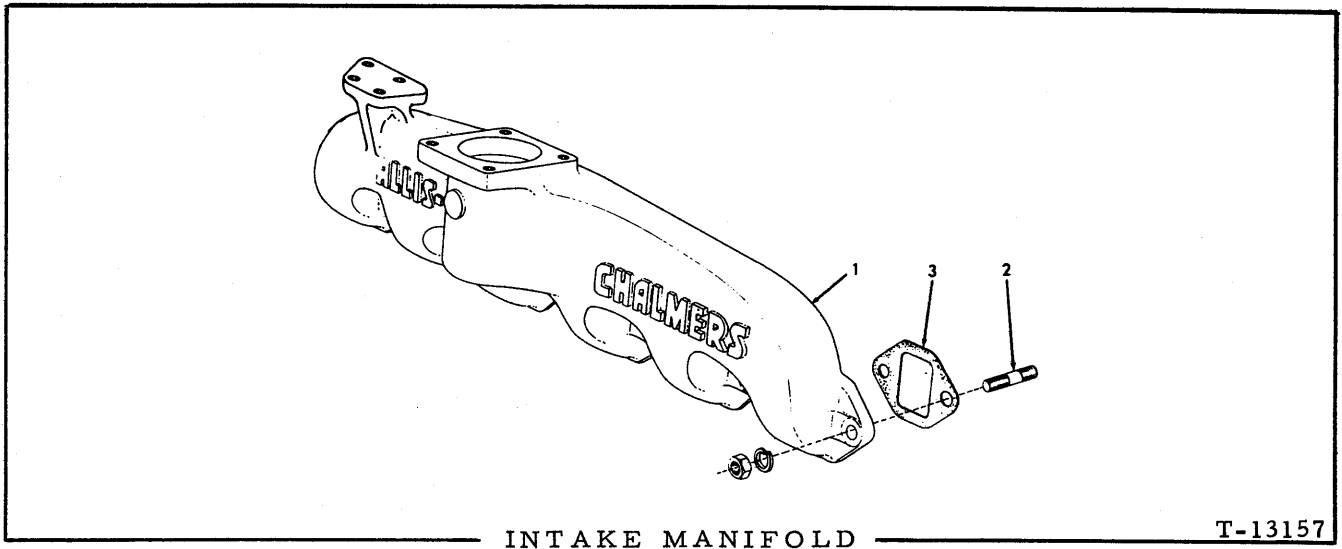
USAGE: See page 71

ITEM	PART NO.	QTY.	DESCRIPTION
1	70068859	1	HOUSING
2	70074941	1	DRUM AND SHAFT
3	70069996	2	WASHER, thrust
4	70068866	2	PLATE ASSEMBLY, housing cover (Includes item 5)
	70914892	5	CAPSCREW, 1/4"NF x 1-3/4"
	70904204	5	LOCKWASHER, 1/4"
	70911040	5	NUT, 1/4"NF
5	70071800	2	BUSHING, throttle shaft
6	70068865	2	GASKET, housing cover plate
7	70068861	1	BAND ASSEMBLY, friction (Includes item 8)
8	70068864	1	LINING, friction band
	70915707	4	RIVET, tubular, brass, 3/16" x 9/64"
9	70068869	1	PIN, friction band
10	70068911	1	SPRING, friction band
11	70069349	2	COLLAR, friction band spring
12	70068862	1	CAPSCREW, friction band adjustment
	70904020	1	PIN, cotter, 1/16" x 1"
	70901150	1	NUT, square, 1/4"NC



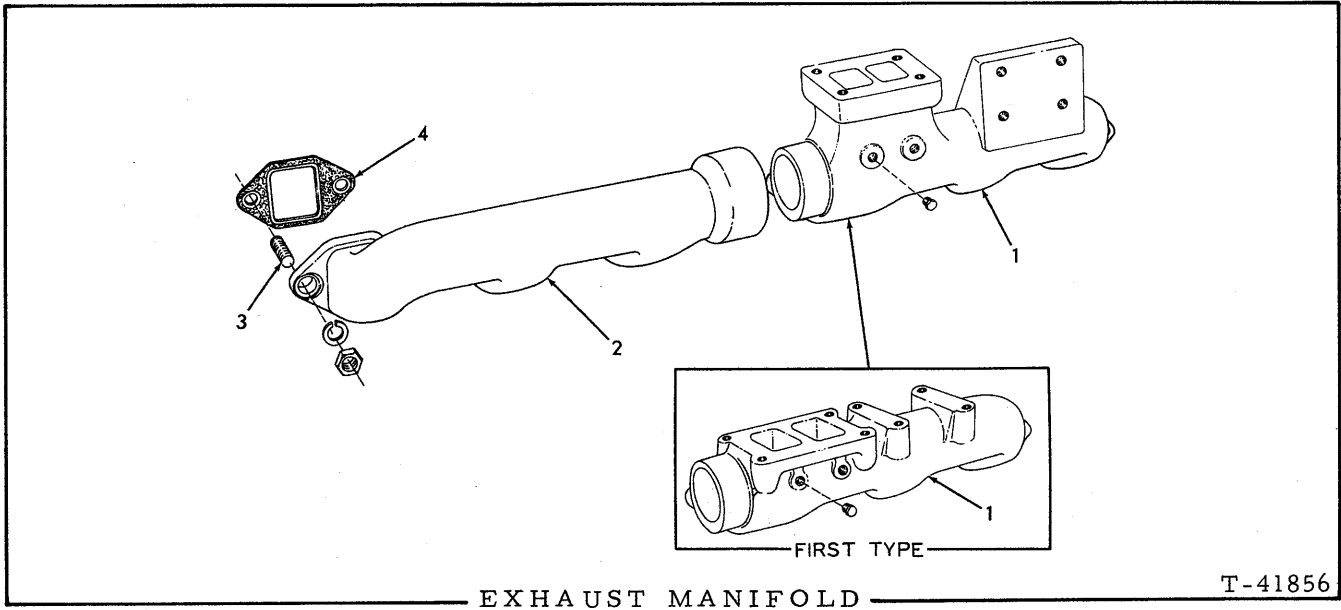
USAGE: Not used on graders with turbocharger.

ITEM	PART NO.	QTY.	DESCRIPTION
1	74339515	1	MANIFOLD, exhaust
	70919840	1	PLUG, pipe, hex-hd., 1/4"NPT
2	74338511	6	□GASKET, exhaust manifold
3	74346208	12	STUD, exhaust manifold
4	74253270	12	NUT, manifold stud
5	74371107	12	WASHER, plain, manifold stud nut



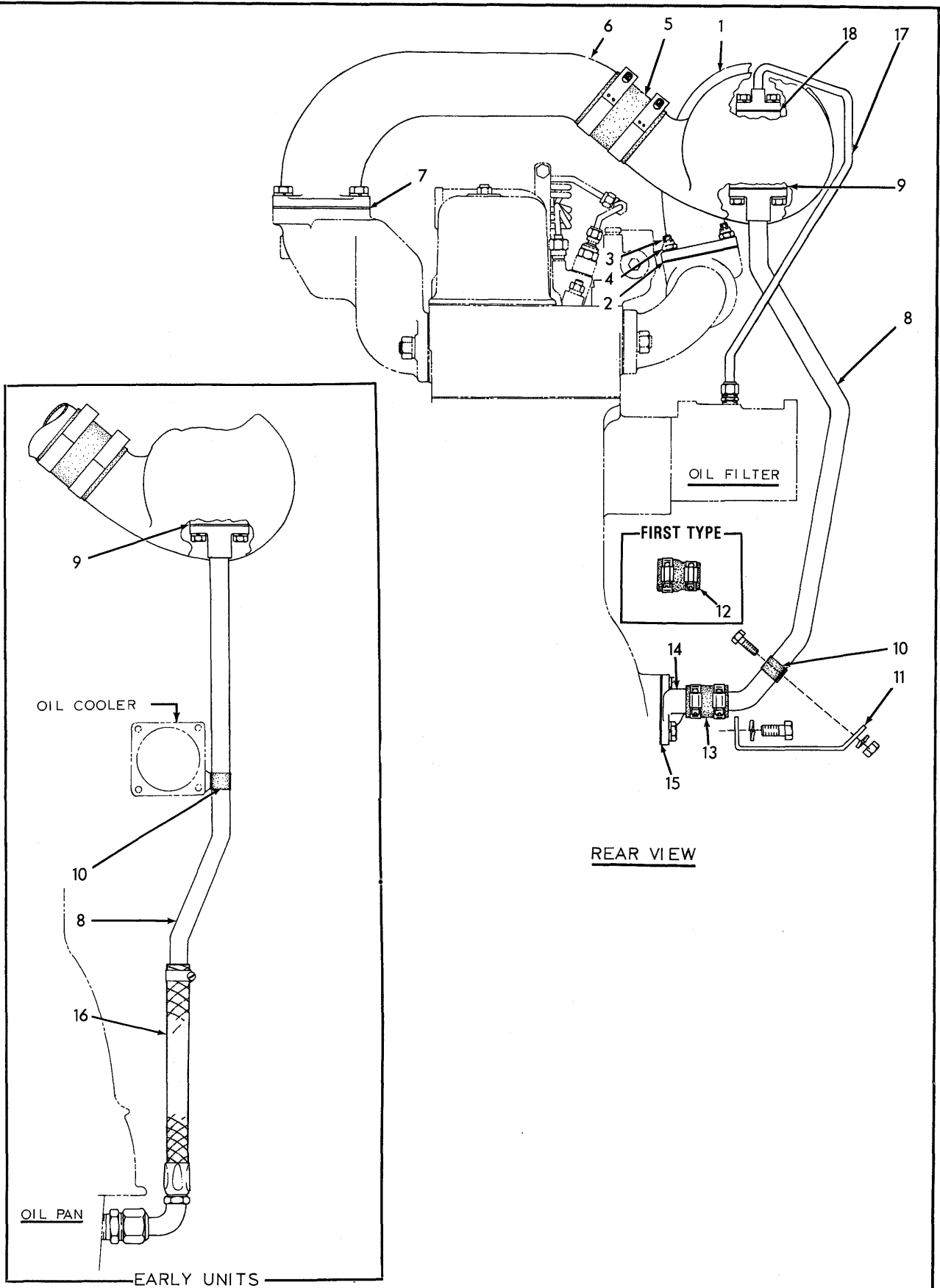
ITEM	PART NO.	QTY.	DESCRIPTION
1	74336202	1	MANIFOLD, intake (Model 10000 engine)
	74321246	1	MANIFOLD, intake (Model 11000 engine) (Also order 1 PLUG 70901652)
2	74346208	12	STUD, intake manifold
	70904208	12	LOCKWASHER, 1/2"
	70910325	12	NUT, 1/2"NC
3	74359741	6	□GASKET, intake manifold

(Revised May 1981)



USAGE: Graders equipped with turbocharger

ITEM	PART NO.	QTY.	DESCRIPTION
1	74339511	1	MANIFOLD, front (Units with TE-06 turbocharger)
	74359206	1	MANIFOLD, front (Units with T-04 turbocharger)
	70919840	2	PLUG, pipe, hex-hd., 1/4"NPT
2	74335623	1	MANIFOLD, rear
3	74346208	12	STUD
	70904208	12	LOCKWASHER, 1/2"
	74253270	12	NUT, manifold stud
4	74359741	6	<input type="checkbox"/> GASKET



TURBOCHARGER
(Model TE-06)

T-71314

TURBOCHARGER
(Model TE-06)

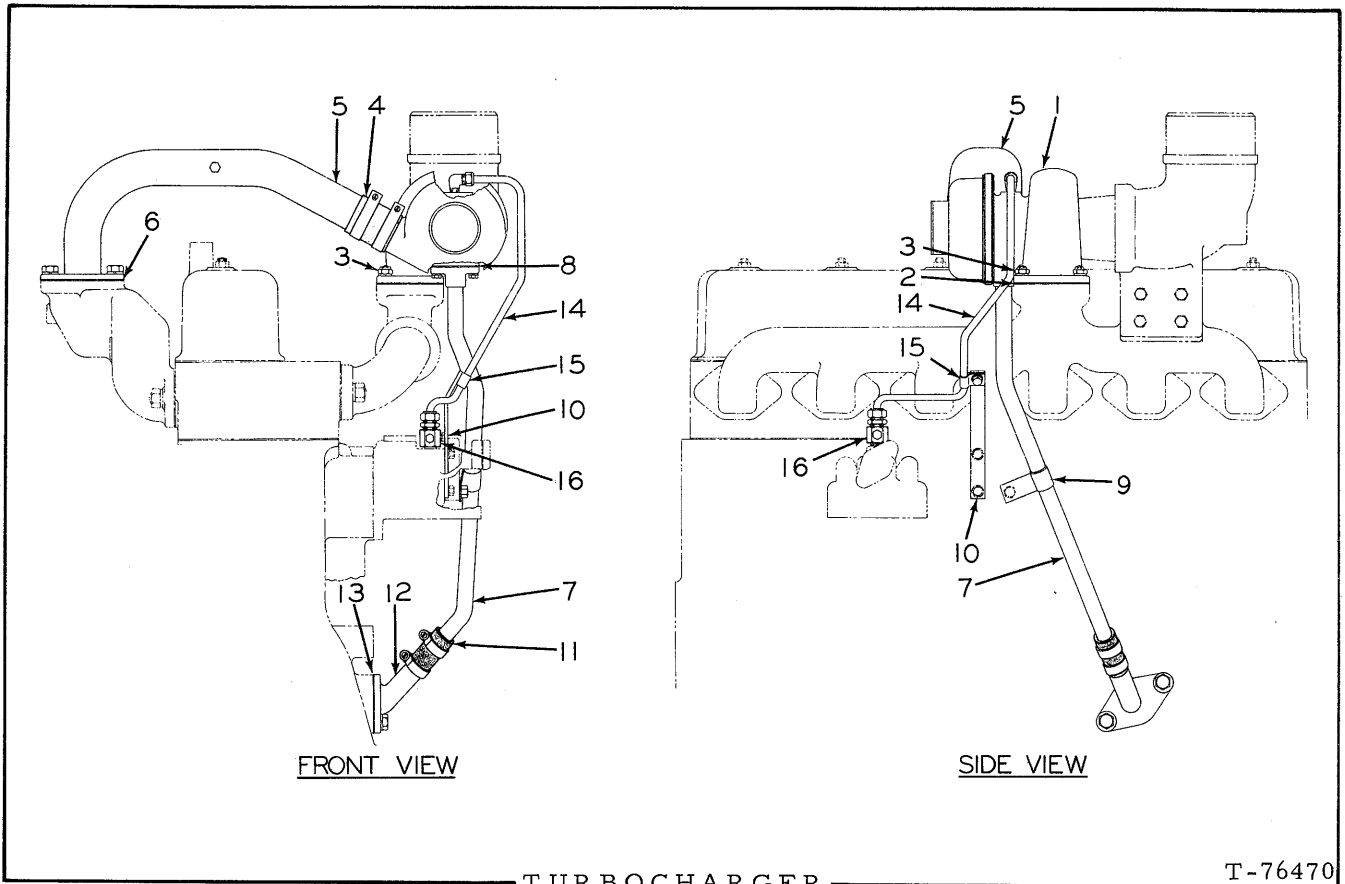
USA GE: Optional equipment on graders prior to serial No. 67S05001. Standard equipment on graders serial No. 67S05001 thru 67S05129 and 67S05158 thru 67S05189.

* Engines prior to serial No. 10-11293
** Engines serial No. 10-11293 and up

ITEM	PART NO.	QTY.	DESCRIPTION
		* **	
1	74339212	1 1	TURBOCHARGER ASSY. (Early units)
	74354698	- 1	TURBOCHARGER ASSY. (Late units)
2	74393466	1 1	<input type="checkbox"/> GASKET, turbocharger mounting
3	74339535	4 4	STUD, turbocharger mounting
4	74385387	4 4	NUT, stainless, 3/8"NC
	70913544	4 4	WASHER, plain
5	74388349	1 1	HOSE, air discharge elbow
	74255644	2 2	CLAMP, hose
6	74339585	1 1	ELBOW, air discharge
	70919840	1 1	PLUG, pipe, hex-hd., 1/4"NPT (Not used when engine primer is installed)
	70919230	4 4	CAPSCREW, 1/2"NC x 1-3/8"
	70904208	4 4	LOCKWASHER, 1/2"
7	74349193	1 1	<input type="checkbox"/> GASKET, air discharge elbow
8	70644952	1 -	TUBE, oil drain
	74358726	- 1	LINE, oil drain (When required for early units also order item 13)
	70916271	2 2	CAPSCREW, 3/8"NC x 1"
	70904206	2 2	LOCKWASHER, 3/8"
9	74339532	1 1	<input type="checkbox"/> GASKET, oil drain line
10	70639493	1 1	CLIP, oil drain line
	70903630	- 1	CAPSCREW, 3/8"NC x 1"
	70904206	- 1	LOCKWASHER, 3/8"
	70911026	- 1	NUT, 3/8"NC
11	70644954	- 1	BRACKET, supporting, oil drain line
	70903637	- 1	CAPSCREW, 1/2"NC x 1"
	70904208	- 1	LOCKWASHER, 1/2"
12	74379723	- 1	ADAPTOR, oil drain line (rubber)(Early units)
	70921911	- 1	CLAMP, hose, 11/16" to 1-1/4"
	70921912	- 1	CLAMP, hose, 1-1/16" to 2"
13	74358728	- 1	HOSE, oil drain line (Late units)
	70921912	- 2	CLAMP, hose, 1-1/16" to 2"
14	74339496	- 1	FLANGE, oil drain line
	70919230	- 2	CAPSCREW, 1/2"NC x 1-3/8"
	70904208	- 2	LOCKWASHER, 1/2"
15	74336436	- 1	GASKET, oil drain line flange
16	74339051	1 -	HOSE ASSY., oil drain (See HOSE PARTS)
	70919064	1 -	CONNECTOR, flare type, 1" tube, 1"NPT male (Requires brazing to oil pan)
	74254968	1 -	CLAMP, hose, 1-3/16" diam.
17	70644951	1 1	TUBE ASSY., oil feed (Includes nut)
	70919062	1 1	CONNECTOR, flare type, 3/8" tube, 1/4"NPT male(Early units)
	70919172	- 1	CONNECTOR, flare type, 3/8" tube, 3/8"NPT male (Late units)
	70916271	2 2	CAPSCREW, 3/8"NC x 1"
	70904206	2 2	LOCKWASHER, 3/8"
18	74339533	1 1	<input type="checkbox"/> GASKET, oil feed tube
19	74339827	1 1	GASKET KIT (Consists of items 2, 7, 9 and 18)(Not illustrated)

Indicates components of item 19

(Revised May 1981)



TURBOCHARGER
(Model T-04)

T-76470

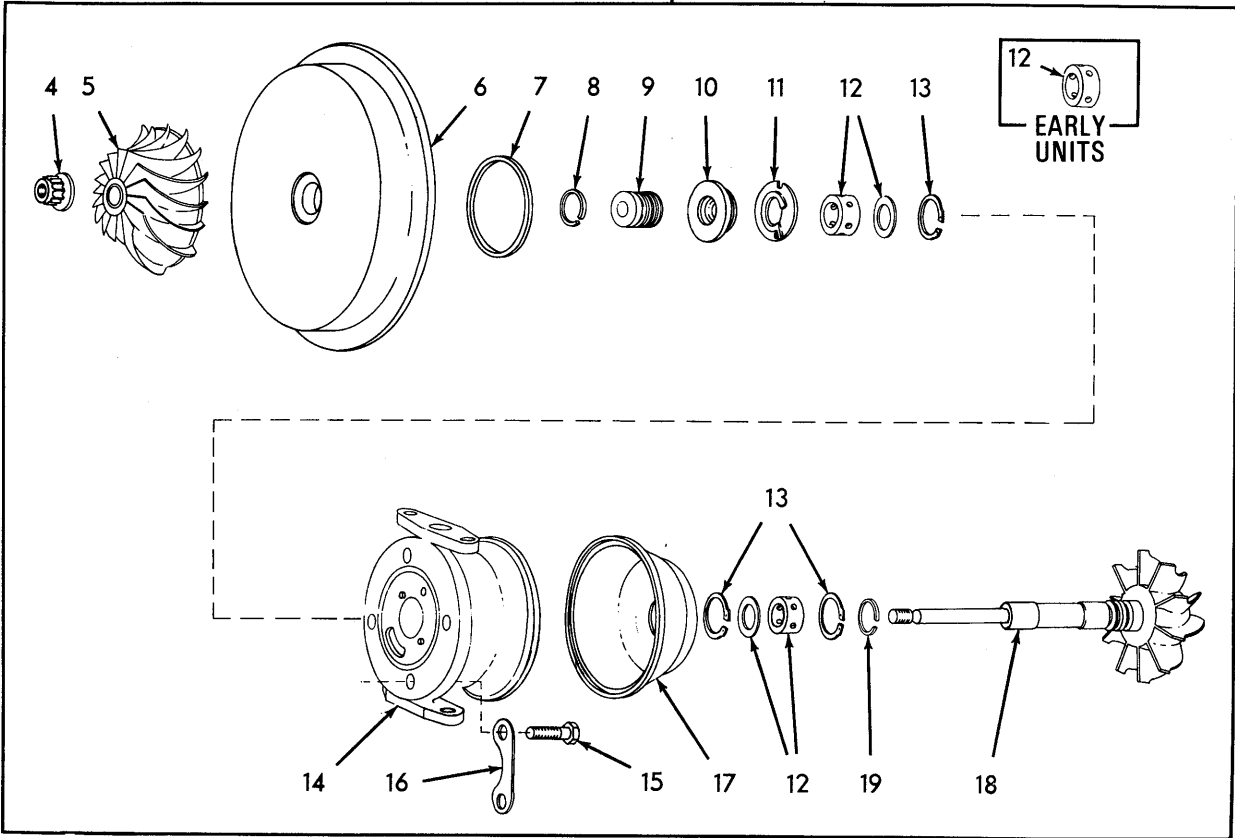
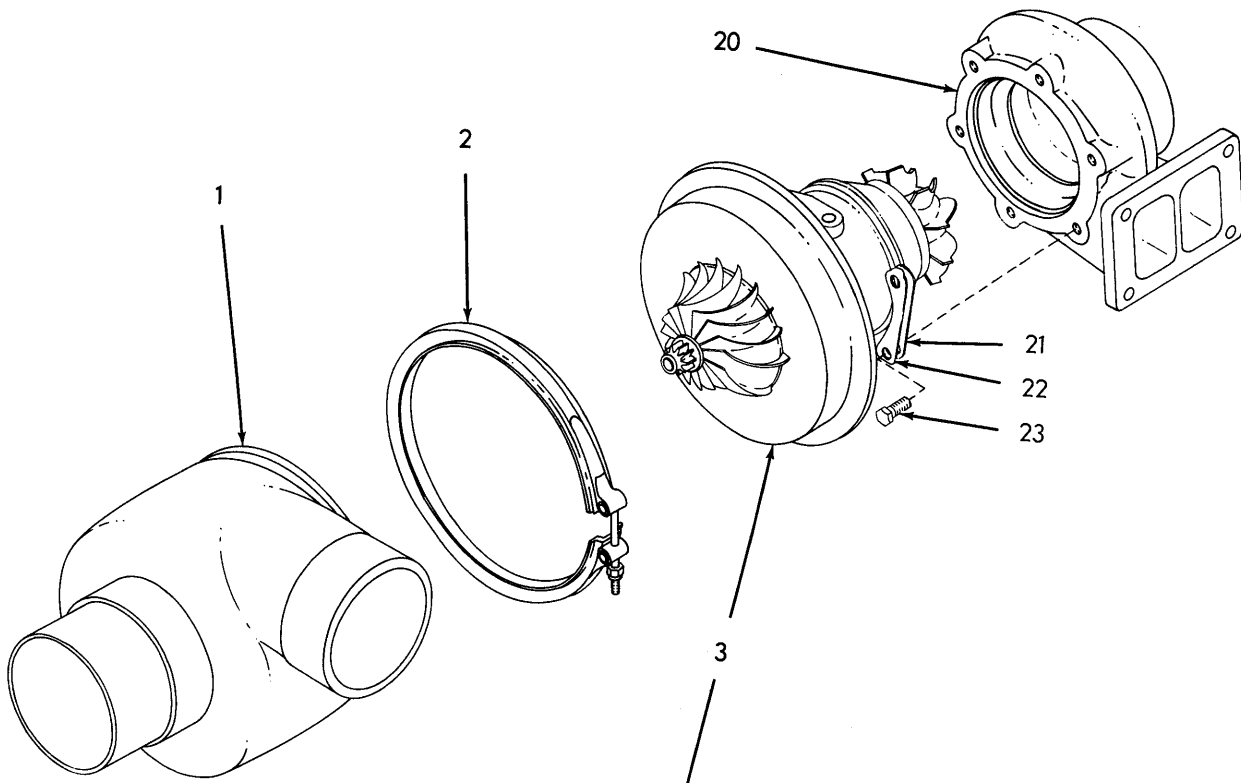
USAGE: Standard equipment. Graders serial No. 67S05130 and up excluding serial Nos. 67S05158 thru 67S05189.

ITEM	PART NO.	QTY.	DESCRIPTION
1	-----	1	TURBOCHARGER ASSY., (See page 79A)
2	74359214	1	GASKET, turbocharger mounting
3	74513701	1	STUD, turbocharger mounting
	74255977	4	NUT, stainless, 3/8"NC
	70913544	4	WASHER, plain
4	74359213	1	HOSE, air discharge elbow
	70927140	2	CLAMP, hose
5	74359216	1	TUBE, air discharge
	70919840	1	PLUG, pipe, hex-hd., 1/4"NPT (Not used when engine primer is installed)
	70916311	4	CAPSCREW, 1/2"NC x 1-1/4"
	70904208	4	LOCKWASHER, 1/2"
6	74349193	1	GASKET, air discharge elbow
7	74359226	1	TUBE, oil drain
	70916271	2	CAPSCREW, 3/8"NC x 1"
	70904206	2	LOCKWASHER, 3/8"
8	74339532	1	GASKET, oil drain line

(Continued)

TURBOCHARGER (Continued)
(Model T-04)

ITEM	PART NO.	QTY.	DESCRIPTION
9	74336620	1	CLAMP, supporting, oil drain line
10	74339722	1	BRACKET, supporting, oil drain line
11	74358728	1	HOSE, oil drain line
	70921912	2	CLAMP, hose, 1-7/16" diam.
12	74337114	1	FLANGE, oil drain line
	70916311	2	CAPSCREW, 1/2"NC x 1-1/4"
	70904208	2	LOCKWASHER, 1/2"
13	74336436	1	GASKET, oil drain line flange
14	-----	1	TUBE, oil feed (Engines prior to #11-18273. Order TUBE 74359684 and item 16)
	74320728	1	TUBE, oil feed (Effective with engine #11-18273)
	74255983	1	SLEEVE, (turbo end)
	70917807	1	SLEEVE, Sealastic, 3/8" tube (filter end)
	70917810	2	NUT, Sealastic, 3/8" tube
	70920700	1	CONNECTOR, Sealastic, 3/8" tube, 3/8"NPT male
	70920280	1	ELBOW, Imperial, 90°, 3/8" tube, 1/4"NPT male
	15	74337590	1
	70911169	1	CAPSCREW, 5/16"NF x 5/8"
	70904205	1	LOCKWASHER, 5/16"
16	74339606	1	ADAPTOR, oil feed tube
	70919840	2	PLUG, pipe, hex-hd., 1/4"NPT
			} Effective with Engine #11-18273



TURBOCHARGER PARTS

T-70408

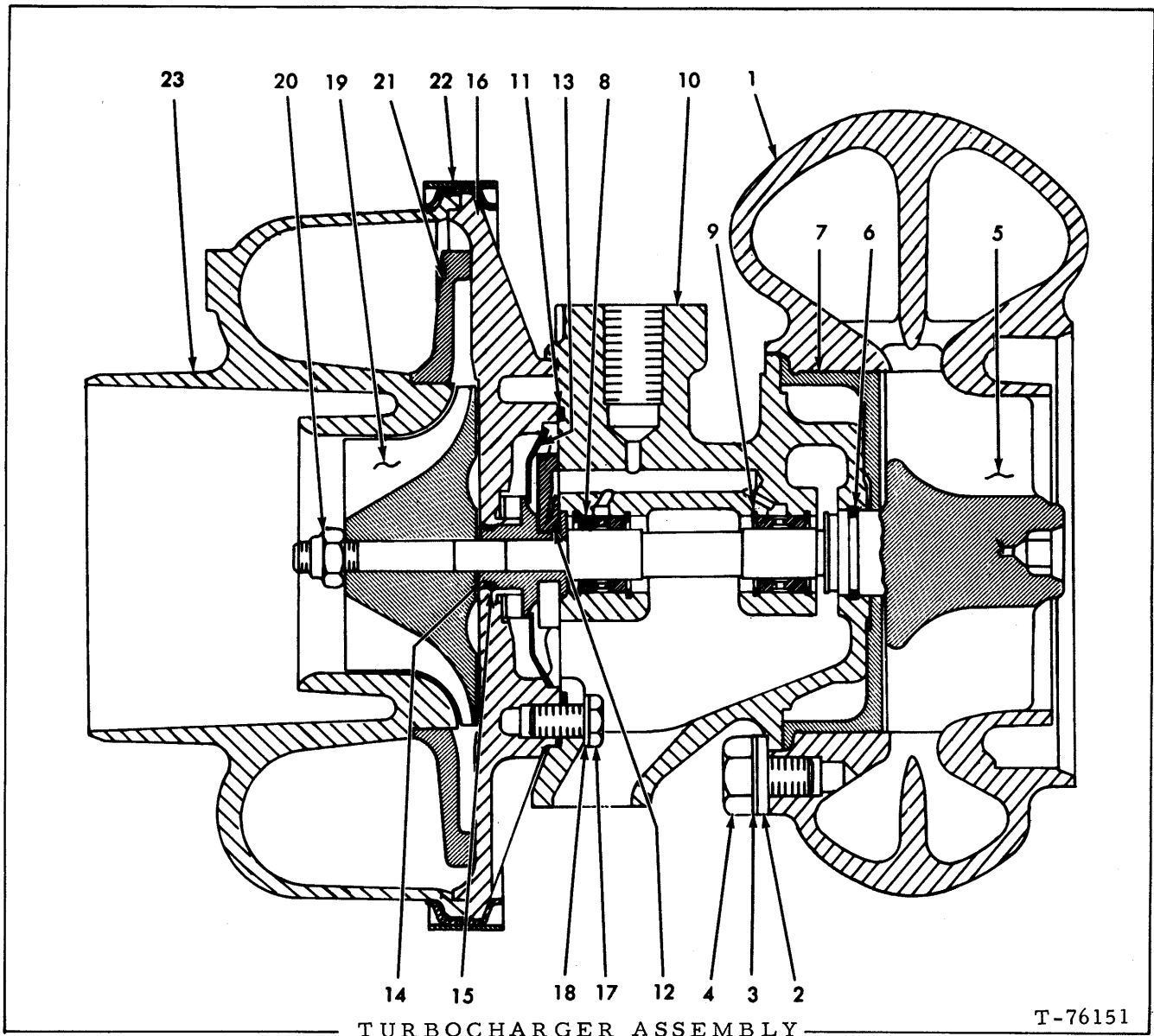
(Revised May 1978)

TURBOCHARGER PARTS

*74339212 TURBOCHARGER (Early units)
 **74354698 TURBOCHARGER (Late units)
 ***74320972 TURBOCHARGER (Service replacement)

} See
page 77

ITEM	PART NO.	QUANTITY			DESCRIPTION
		*	**	***	
1	74056303	1	1	1	HOUSING ASSY., compressor (Includes impeller shroud and locating pin)
2	74056302	1	1	1	COUPLING
3	74056285	1	-	-	HOUSING ASSY., center (Consists of items 4 thru 19)
	74061560	-	1	1	HOUSING ASSY., center (Consists of items 4 thru 18)
4	74056291	1	1	1	LOCKNUT
5	74056290	1	1	1	IMPELLER, compressor
6	74056292	1	1	-	BACKPLATE ASSY. } Each includes thrust
	74059030	-	-	1	BACKPLATE ASSY. } washer and orifice pin
7	74056300	1	1	1	RING, end plate sealing
8	74055195	1	1	1	RING, sealing, turbine wheel shaft, compressor end
9	74056289	1	1	1	SPACER, thrust
10	74056288	1	-	-	COLLAR, thrust
	74059029	-	1	1	COLLAR, thrust
11	74056294	1	1	1	BEARING, thrust
12	74056295	2	2	-	BEARING, turbine wheel
	74061213	-	-	2	BEARING, turbine wheel
	74061214	-	-	2	WASHER
13	74056296	3	3	-	RING, snap
	70927771	-	-	3	RING, snap
14	74056286	1	-	1	HOUSING ASSY., center (Includes dowels)
	74059024	-	1	-	HOUSING ASSY., center (Includes dowels)
15	74181061	4	4	-	BOLT
	70928202	-	-	4	BOLT
16	74059992	4	4	4	LOCKPLATE
17	74060371	1	1	1	SHROUD, heat
18	74056287	1	-	-	WHEEL, turbine
	74059049	-	1	-	WHEEL, turbine
	74061093	-	-	1	WHEEL, turbine
19	74056297	1	-	-	RING, sealing, turbine wheel shaft, exhaust end
20	74056301	1	-	-	HOUSING, turbine
	74059051	-	1	1	HOUSING, turbine
21	74056306	3	3	3	PLATE, clamp
22	74056305	3	3	3	LOCKPLATE
23	74056314	3	3	6	BOLT (3/8"NC x 5/8")



USAGE: See page 77A

ITEM	PART NO.	QTY.	DESCRIPTION
-	74359212	1	TURBOCHARGER ASSY. (Includes items 1 thru 23)(Original equipment. Order TURBOCHARGER ASSY. 74322304)
-	74320705	1	TURBOCHARGER ASSY. (Includes items 1 thru 12 and 14 thru 23)(Service replacement. Identified by part No. 74320704 stamped on name plate)
-	74322304	1	TURBOCHARGER ASSY. (Includes items 1 thru 12 and 14 thru 23)
1	74060014	1	HOUSING, turbine
2	74059990	3	CLAMP
3	74059991	3	LOCKPLATE, turbine housing bolts
4	74059998	6	BOLT, turbine housing

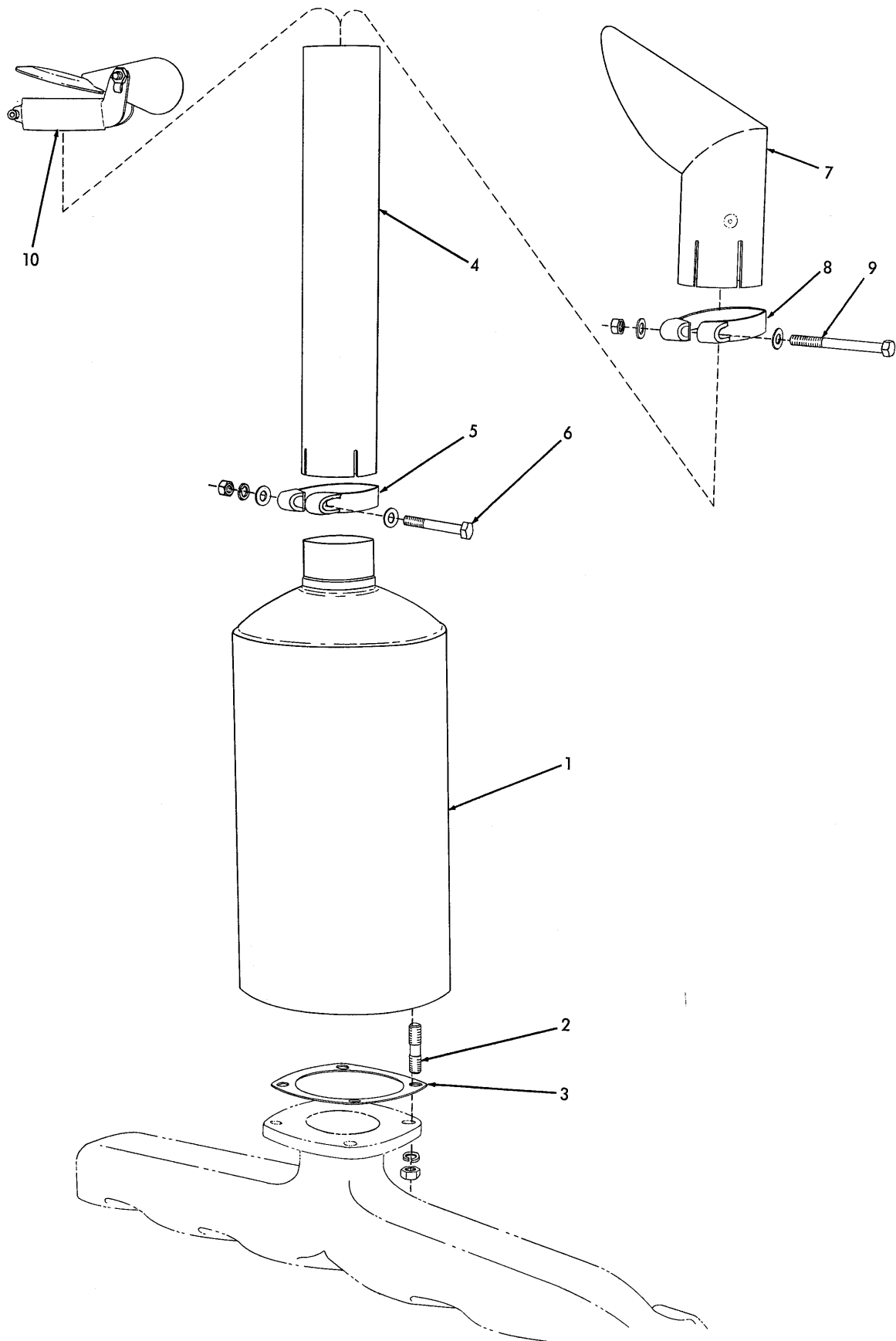
(Continued)

(Revised May 1981)

TURBOCHARGER ASSEMBLY (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
5	74062662	1	SHAFT AND TURBINE WHEEL
6	74060936	1	RING, sealing, turbine wheel shaft
7	74059997	1	SHROUD, turbine housing
8	74060935	2	BEARING, turbine shaft
9	74060726	4	RING, snap, bearing retaining
10	74060940	1	HOUSING ASSY., center (Includes item 6 and PIN indented below)
	74060000	2	PIN, spring, stainless, 3/32" x 1/4" (Used with Turbocharger 74359212)
11	74056300	1	RING, sealing, compressor housing
12	74060939	1	BEARING, thrust
13	74059987	1	SPRING, thrust bearing (Used with Turbocharger 74359212)
14	74059988	1	COLLAR, thrust
15	74059984	1	RING, sealing, thrust collar
16	74060941	1	BACKPLATE ASSY., compressor housing (Includes item 13)
17	70928202	4	BOLT, attaching
18	74059992	2	LOCKPLATE
19	74060006	1	WHEEL, compressor
20	74062464	1	NUT, turbine shaft
21	74060684	1	DIFFUSER, discharge air
22	74059995	1	COUPLING, V-band (Includes clamping screw)
23	74060009	1	HOUSING, compressor

(Revised May 1981)



MUFFLER

T-16312

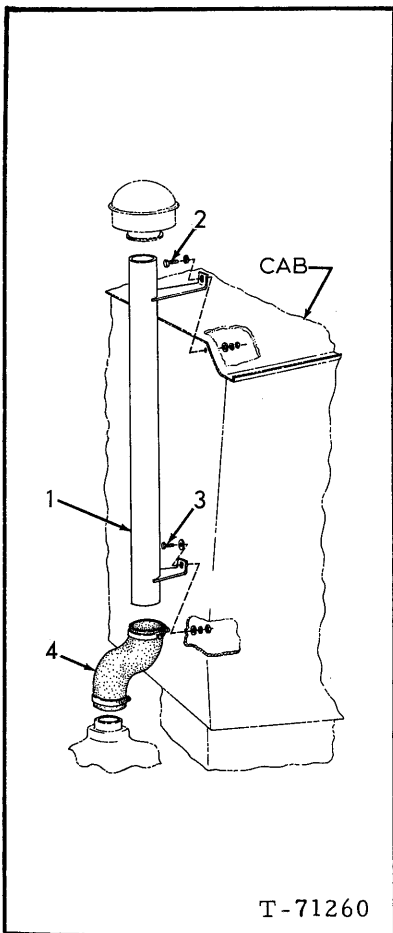
MUFFLER

USAGE: Standard on graders prior to serial No. 5001 only. Not for units with turbocharger.

ITEM	PART NO.	QTY.	DESCRIPTION
1	70092497	1	MUFFLER
2	74346208	4	STUD (1/2" diam.)
	70904208	4	LOCKWASHER, 1/2"
	70917260	4	NUT, brass, 1/2"NC
3	74366244	1	GASKET, muffler to manifold
4	70084890	1	PIPE, exhaust
5	70084887	1	CLAMP, exhaust pipe
6	70041913	1	CAPSCREW, 3/8"NF x 2-7/8"
	70911115	2	WASHER, plain, SAE std., 3/8"
	70904206	1	LOCKWASHER, 3/8"
	70911041	1	NUT, 3/8"NF

NOTE: The following items are Special Equipment

7	70085280	1	SHIELD, rain, exhaust pipe
8	70084887	1	CLAMP, exhaust pipe rain shield
9	70053619	1	CAPSCREW, 3/8"NF x 3-3/4"
	70911115	2	WASHER, plain, SAE std., 3/8"
	70911041	1	NUT, 3/8"NF
10	70085088	1	RAINCAP, exhaust pipe

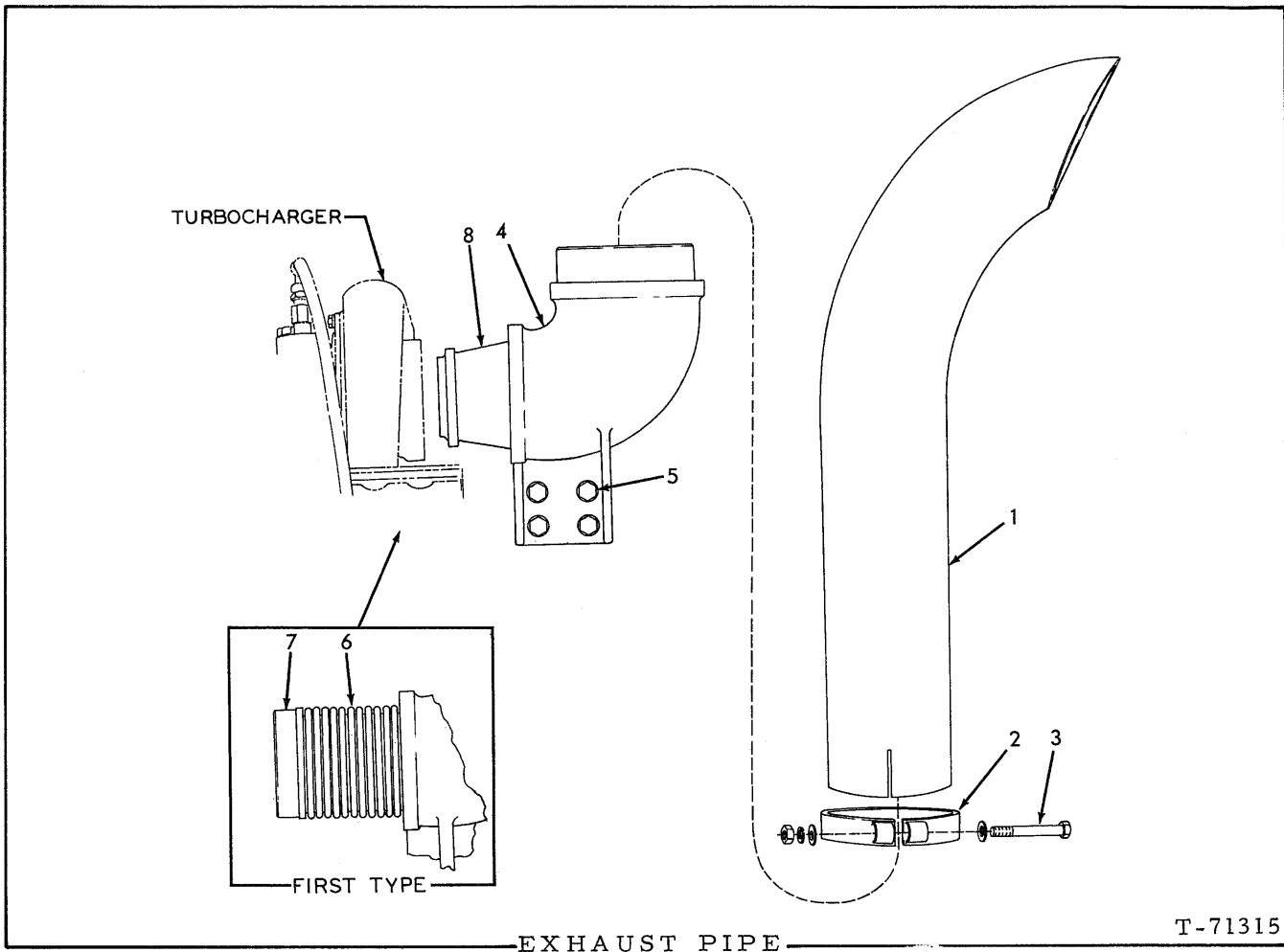


AIR CLEANER EXTENSION

USAGE: Special equipment. Used only with cab.

*Graders prior to serial No. 1001 (8" air cleaner) } Not used
 **Graders serial No. 1001 thru No. 5001 (10" air cleaner) } with optional turbocharger
 Δ Graders serial No. 67S05001 and up (12" air cleaner)

ITEM	PART NO.	* QTY.	**	Δ	DESCRIPTION
1	70641998	1	-	-	TUBE, extension
	70646894	-	1	-	TUBE, extension
	70669604	-	-	1	TUBE, extension
2	70914392	1	1	1	CAPSCREW, 5/16"NC x 1"
	70901165	1	2	2	WASHER, plain, U. S. std., 5/16"
	70904205	-	1	1	LOCKWASHER, 5/16"
	70911025	-	1	1	NUT, 5/16"NC
3	70914392	1	1	1	CAPSCREW, 5/16"NC x 1"
	70901165	2	2	2	WASHER, plain, U. S. std., 5/16"
	70904205	1	1	1	LOCKWASHER, 5/16"
	70911025	1	1	1	NUT, 5/16"NC
4	70634559	1	-	-	HOSE, extension tube (straight)
	70921914	2	-	-	CLAMP, hose, 2-5/16" to 3-1/4" diam.
	70646898	-	1	-	HOSE, extension tube
	70669605	-	-	1	HOSE, extension tube
	70921916	-	2	2	CLAMP, hose, 3-13/16" to 4-3/4" diam.



USAGE: Graders with turbocharger only

* Engines with TE-06 turbocharger (Early units)
 ** Engines with T-04 turbocharger (late units)

ITEM	PART NO.	QTY.		DESCRIPTION
		*	**	
1	70656660	1	1	PIPE, exhaust
2	70638922	1	1	CLAMP, exhaust pipe
3	70041913	1	1	CAPSCREW, 3/8"NF x 2-7/8"
	70911115	2	2	WASHER, plain, SAE std., 3/8"
	70904206	1	1	LOCKWASHER, 3/8"
	70911041	1	1	NUT, 3/8"NF
4	74354821	1	-	ELBOW, exhaust
	74359207	-	1	ELBOW, exhaust
5	74255003	4	4	CAPSCREW, stainless steel, 3/8"NC x 1-1/4"
	70904206	4	4	LOCKWASHER, 3/8"
6	-----	1	1	HOSE, exhaust outlet (metal)
7	-----	1	1	ADAPTOR, exhaust outlet hose
8	74354714	1	-	DIFFUSER, exhaust (Effective November 1966)
	74359205	-	1	DIFFUSER, exhaust

} Used prior to November 1966. Order item 8

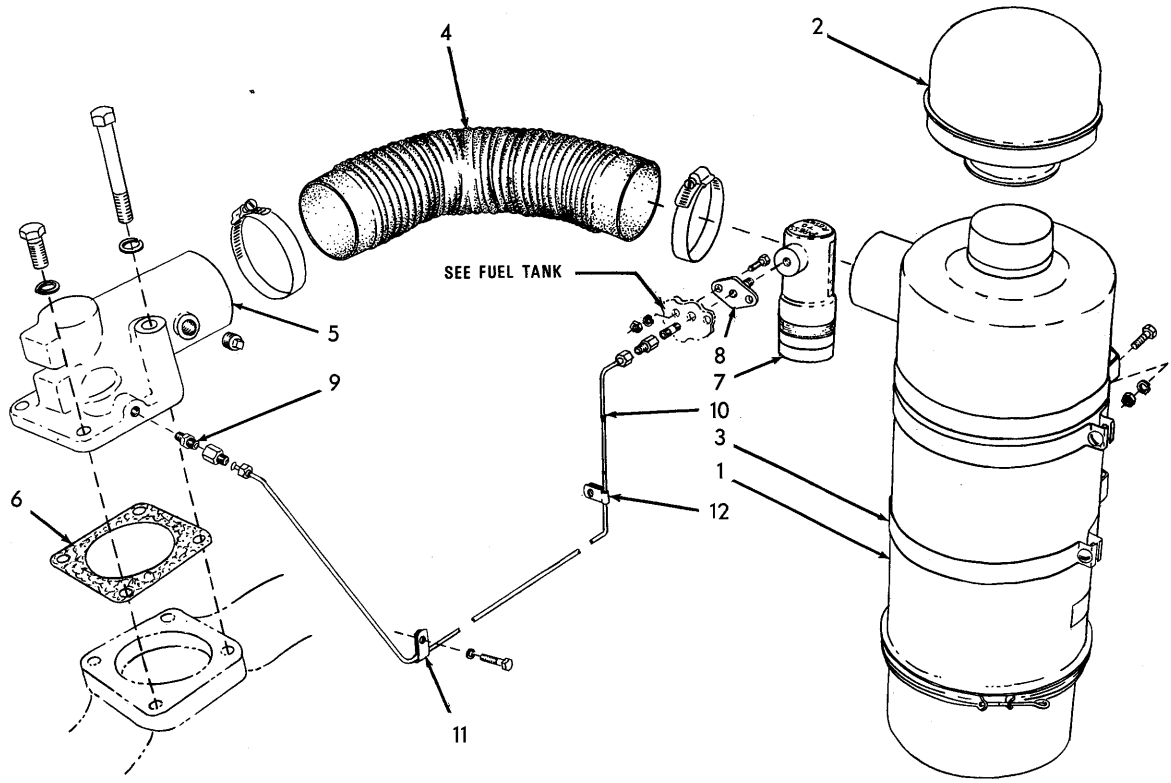
AIR CLEANER

USAGE: Standard equipment on graders prior to serial No. 5001. Not for units equipped with optional turbocharger.

*Graders prior to serial No. 1001 (8" diam. Cleaner)
 **Graders serial No. 1001 thru 5000 (10" diam. Cleaner)

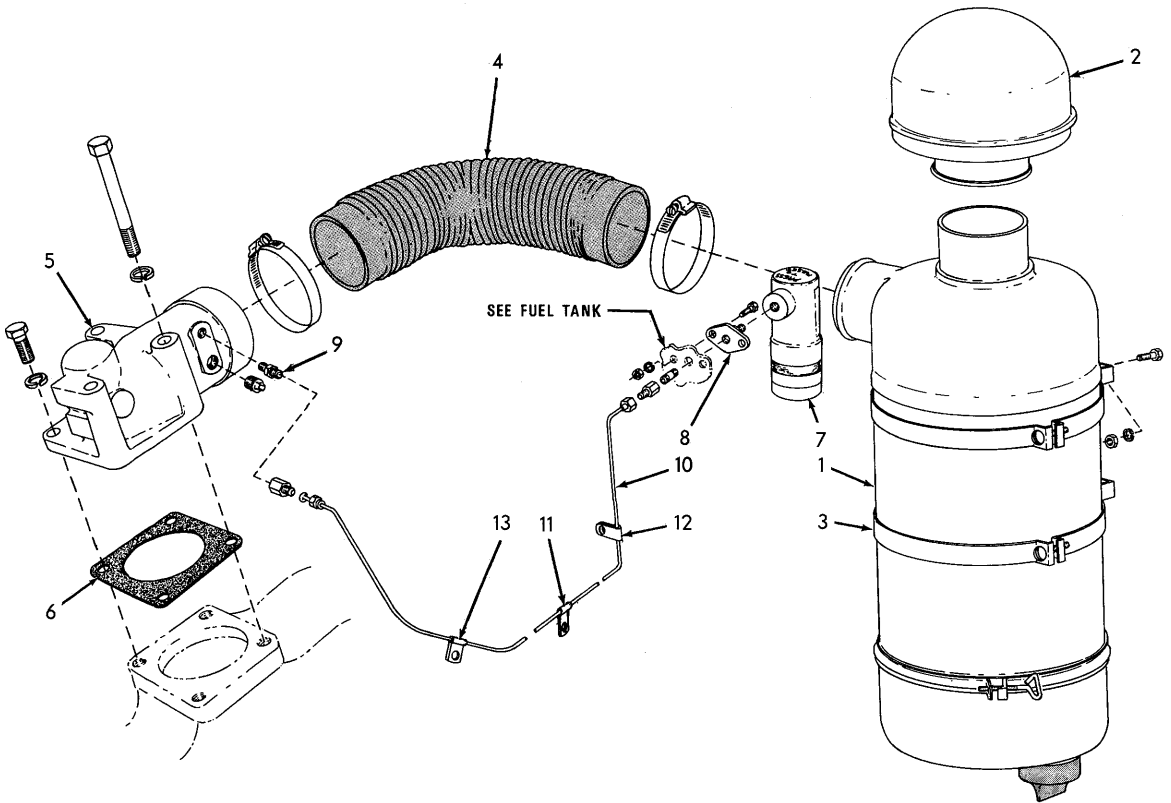
ITEM	PART NO.	QTY.		DESCRIPTION	
		*	**		
1	70638274	1	-	CLEANER ASSEMBLY, air	} See page 86 for parts
	70644498	-	1	CLEANER ASSEMBLY, air (Used prior to grader #1888)(Order AIR CLEANER 70659388)	
	70659388	-	1	CLEANER ASSEMBLY, air (Effective with grader #1888)	} See page 87 for parts
	74025956	-	1	CLEANER ASSEMBLY, air (Optional oil-bath type)	
2	70240441	1	-	CAP, rain	
	70644458	-	1	CAP, rain (Used with AIR CLEANERS 70644498 and 70659388)	
	70650473	-	1	PRE-CLEANER ASSEMBLY (See page 85 for parts)(Used with AIR CLEANER 74025956 only)	
3	73024555	2	-	BAND ASSEMBLY, air cleaner mounting (Includes tightening screw and nut)	
	70903626	4	-	CAPSCREW, 5/16"NC x 3/4"	
	70904205	4	-	LOCKWASHER, 5/16"	
	70911025	4	-	NUT, 5/16"NC	
	73026368	-	2	BAND ASSEMBLY, air cleaner mounting (Includes tightening screw)	
	70916269	-	4	CAPSCREW, 3/8"NC x 7/8"	
	70904206	-	4	LOCKWASHER, 3/8"	
	70911026	-	4	NUT, 3/8"NC	
4	70634559	1	-	HOSE, corrugated	
	70921915	2	-	CLAMP, hose, 2-13/16" to 3-3/4"	
	70642893	-	1	HOSE, corrugated	
	70921916	-	2	CLAMP, hose, 3-13/16" to 4-3/4" diam.	
5	70634024	1	-	ELBOW, air inlet	} Also see page 91 for special elbows used with AIR HEATER
	70646971	-	1	ELBOW, air inlet	
6	70901652	1	1	PLUG, pipe, 1/4"NPT	
	70901651	1	1	PLUG, pipe, 1/8"NPT (Removed when indicator is installed)	
	70906700	2	-	CAPSCREW, 1/2"NC x 3-3/4"	
	70919232	-	3	CAPSCREW, 1/2"NC x 4-3/4"	
	70916311	2	1	CAPSCREW, 1/2"NC x 1-1/4"	
	70904208	4	4	LOCKWASHER, 1/2"	
	70084868	1	1	GASKET, air inlet elbow	
<u>NOTE:</u> Items listed below are special equipment					
7	70697589	1	1	INDICATOR, air restriction(If for early units also order item 8)	
8	73045531	1	1	FLANGE, mounting, air restriction indicator	
	70903625	2	2	CAPSCREW, 1/4"NC x 3/4"	
	70904204	2	2	LOCKWASHER, 1/4"	
	70911024	2	2	NUT, 1/4"NC	
9	70622447	1	1	FITTING, connector (Includes filter)	

(Continued)



FIRST TYPE - 8" DIAM. CLEANER

T-40557



SECOND TYPE - 10" DIAM. CLEANER

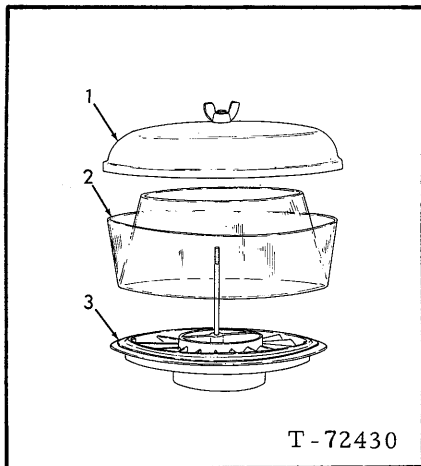
T-71259

AIR CLEANER

AIR CLEANER (Continued)

ITEM	PART NO.	QTY.		DESCRIPTION
		*	**	
10	70637535	1	1	TUBE ASSEMBLY, air restriction indicator (Includes nuts)
	70922880	2	2	CONNECTOR, flare type, 1/8" tube, 1/8"NPT female
	70904273	1	1	NIPPLE, pipe, 1/8"NPT x 1" (Early units)
	70901467	1	1	NIPPLE, pipe, 1/8"NPT x 3/4" (Late units)
11	70066260	1	1	CLIP, tube supporting (1/8" diam.)
12	70034632	4	4	CLIP, tube supporting (5/16" diam.)
13	70066260	1	1	CLIP, tube supporting (1/8" diam., 13/32" bolt-hole)(Graders prior to #1209)
	70065953	-	1	CLIP, tube supporting (1/8" diam., 17/32" bolt-hole)(Graders #1209 and up)

NOTE: See PAINTING AND MARKING for transfers. Items listed above are special equipment



AIR PRE-CLEANER PARTS

* 70650473 PRE-CLEANER (See page 83)
 ** 70655272 PRE-CLEANER (See page 89D)

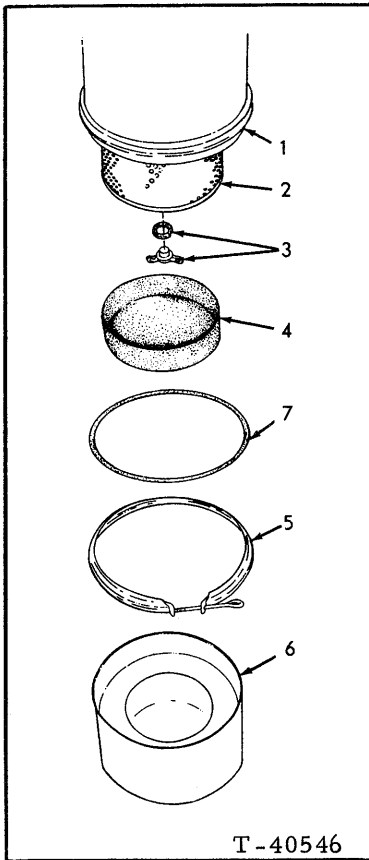
ITEM	PART NO.	QTY.		DESCRIPTION
		*	**	
1	70651268	1	1	COVER
2	70651270	1	1	BOWL, sediment (clear plastic)
3	70654122	1	-	SLEEVE ASSY. (3-3/4" diam. inlet)
	70650386	-	1	SLEEVE ASSY. (4-1/2" diam. inlet)

} Each includes center stud

AIR CLEANER ASSEMBLY 70638274

USAGE: See page 83

ITEM	PART NO.	QTY.	DESCRIPTION
1	-----	1	BODY (Not serviced separately)
2	70638414	1	ELEMENT, filtering
3	70239517	1	NUT ASSEMBLY, element retaining (Includes gasket)
4	70638416	1	BAFFLE, air
5	70644823	1	CLAMP ASSEMBLY, dust cup retaining (Includes tightening screw)
6	70638418	1	CUP, dust
7	70644822	1	O-RING, dust cup

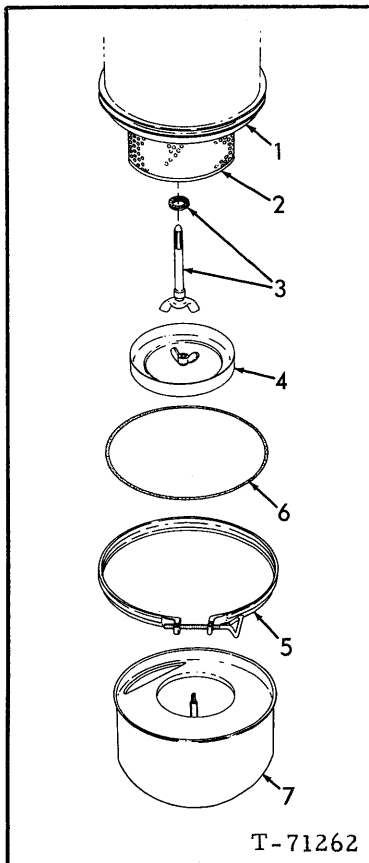


T-40546

AIR CLEANER ASSEMBLY 70644498

USAGE: See page 83 and 89

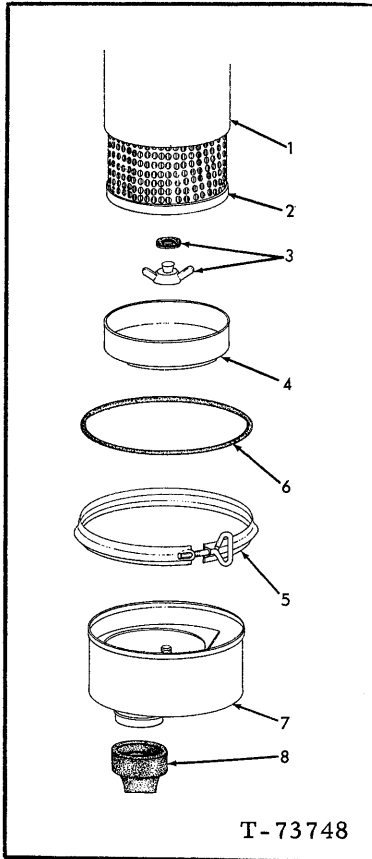
ITEM	PART NO.	QTY.	DESCRIPTION
1	-----	1	BODY (Not serviced separately)
2	73039921	1	ELEMENT, filtering
3	70629122	1	BOLT ASSEMBLY, element retaining (2-3/8" long. Includes gasket)(Early units)
	70648799	1	BOLT ASSEMBLY, element retaining 4-3/4" long. Includes gasket)(Late units)
4	70646860	1	BAFFLE, air (Includes wing nut)
5	70648087	1	CLAMP ASSEMBLY, dust cup retaining (Includes tightening screw)
6	70248860	1	O-RING, dust cup
7	70646861	1	CUP, dust



T-71262

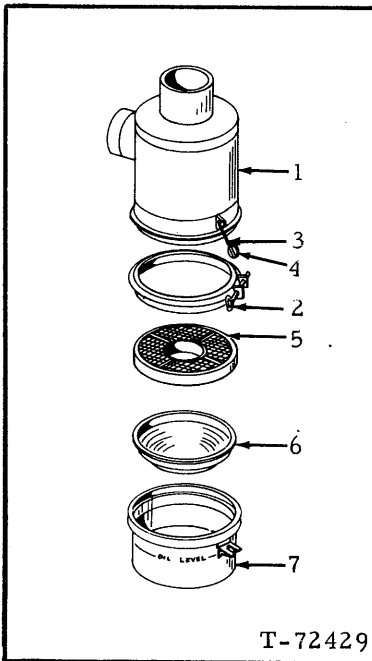
AIR CLEANER ASSEMBLY 70659388

USAGE: See pages 83 and 89



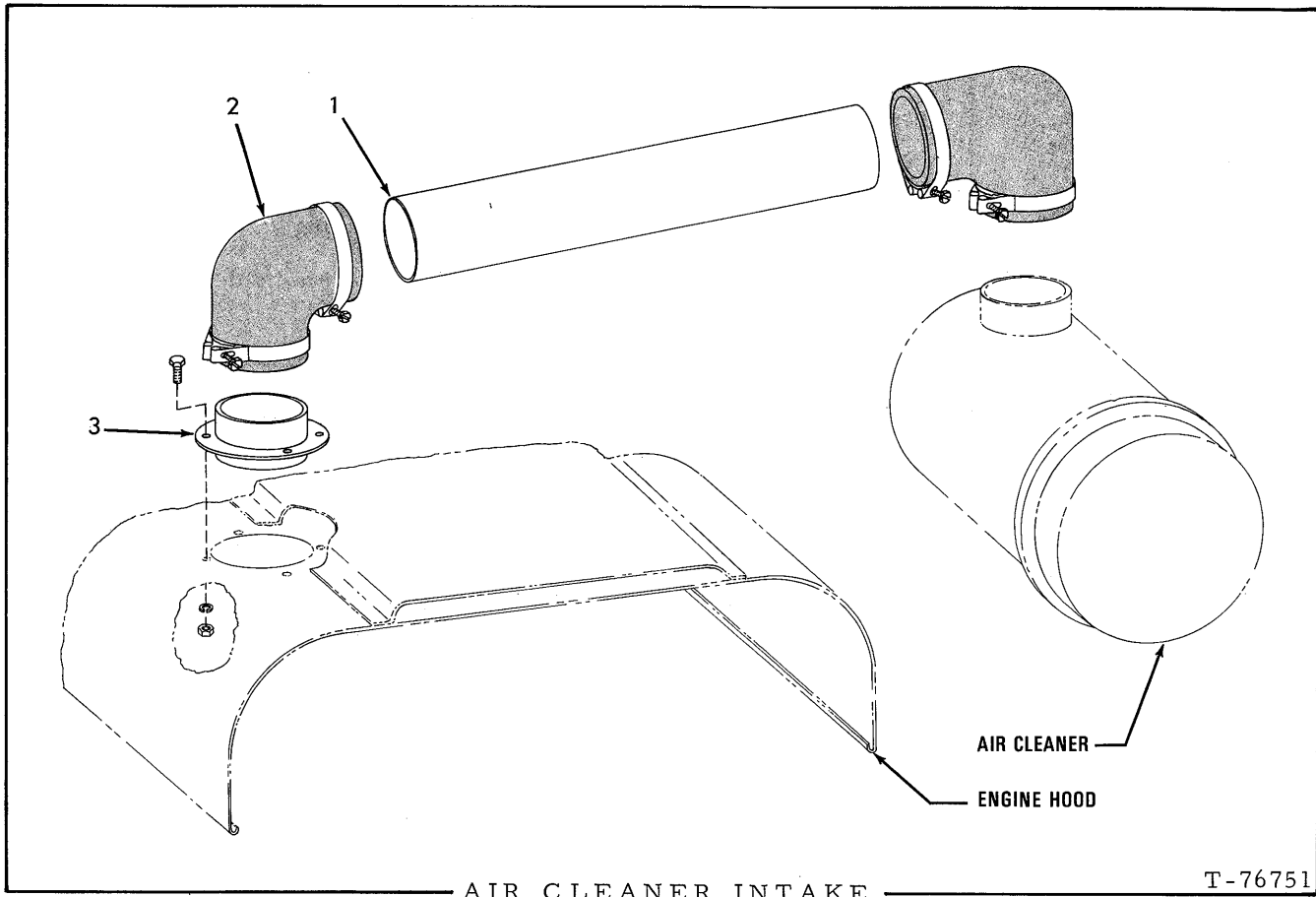
ITEM	PART NO.	QTY.	DESCRIPTION
1	-----	1	BODY (Not serviced separately)
2	70654409	1	ELEMENT, filtering
3	70239517	1	NUT ASSEMBLY, element retaining (Includes gasket)
4	70646860	1	BAFFLE, air (Includes wing nut)
5	70648087	1	CLAMP ASSEMBLY, dust cup retaining (Includes tightening screw)
6	70248860	1	O-RING, dust cup
7	70662254	1	CUP, dust
8	73042943	1	VALVE, unloading

AIR CLEANER PARTS



ITEM	PART NO.	QTY.		DESCRIPTION
		*	**	
1	-----	1	1	BODY ASSY. (Not serviced separately)
2	{ -----	1	-	BAND ASSY. (Not serviced separately)
		-	1	BAND ASSY. (Includes screw and nut)
3	74055454	2	2	BOLT ASSY. (Includes item 4)
4	74055455	2	2	NUT, wing
5	{ 74056636	1	-	ELEMENT, filtering
		-	1	ELEMENT, filtering
6	{ 74056637	1	-	CUP, inner
		-	1	CUP, inner
7	{ 74056638	1	-	CUP, outer
		-	1	CUP, outer

* 74025956 CLEANER (See page 83)
 ** 70655270 CLEANER (See page 89D)

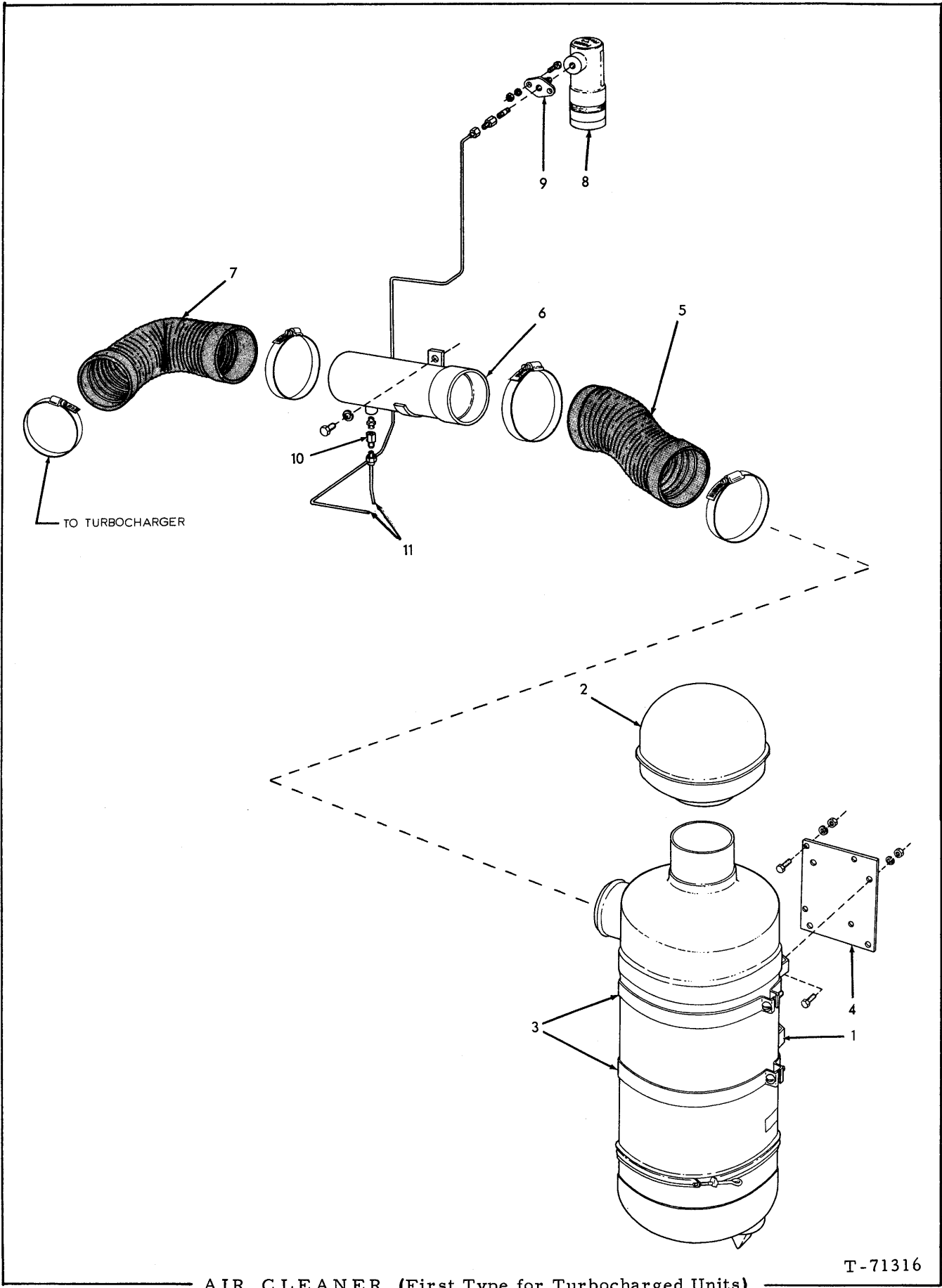


USAGE: Special equipment.

ITEM	PART NO.	QTY.	DESCRIPTION
1	70679343	1	TUBE, air intake
2	70679342	2	ELBOW, air intake tube
	70926278	4	CLAMP, hose
3	70679341	1	PLATE, tube adapting
	70927541	4	CAPSCREW, 1/4"NC x 3/4"
	70910285	4	LOCKWASHER, 1/4"
	70911024	4	NUT, 1/4"NC

MEMO

87B



AIR CLEANER (First Type for Turbocharged Units)

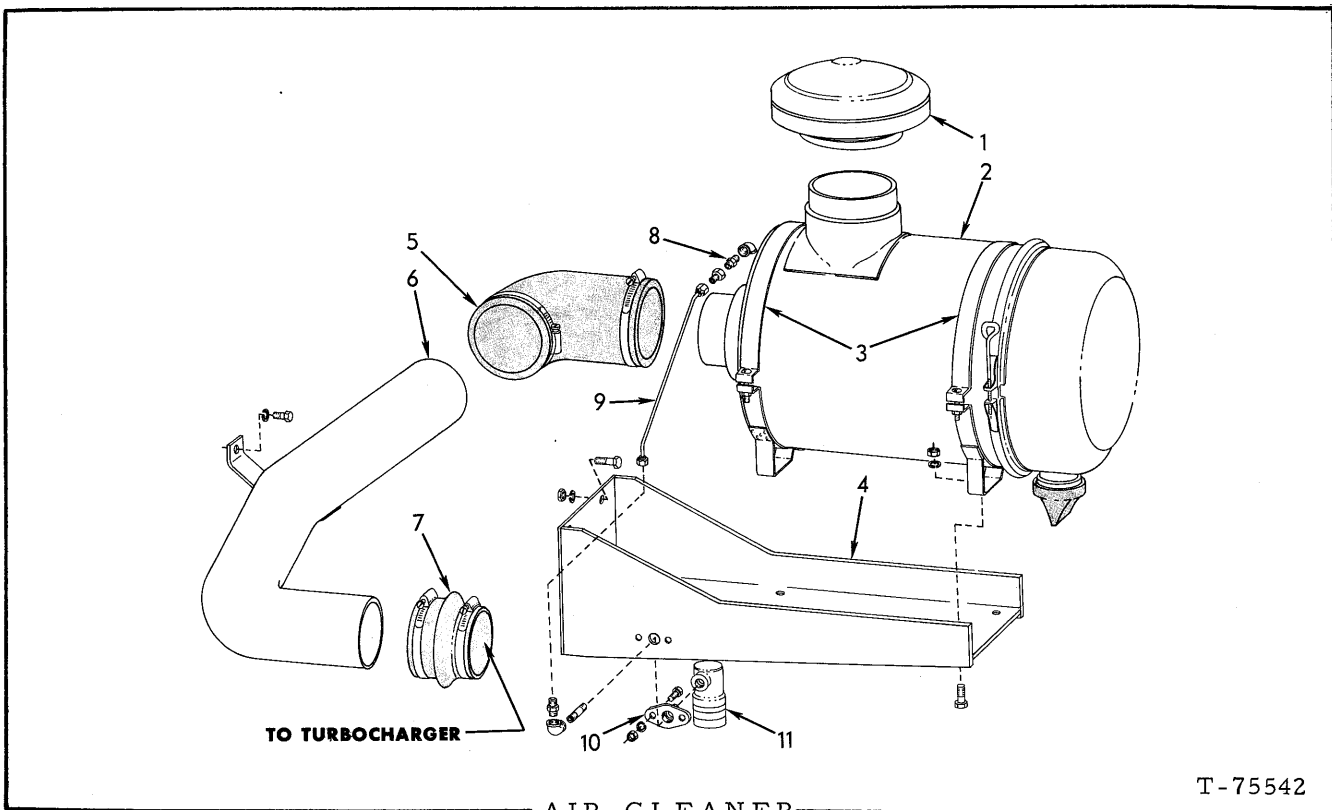
T-71316

AIR CLEANER

USAGE: Graders prior to serial No. 5001, equipped with optional turbocharger only.

ITEM	PART NO.	QTY.	DESCRIPTION
1	70644498	1	CLEANER ASSEMBLY, air (See page 86 for parts)(Used prior to grader #1888). Order AIR CLEANER 70659388)
	70659388	1	CLEANER ASSEMBLY, air (See page 87 for parts)(Effective with grader #1888)
2	70644458	1	CAP, rain
3	73026368	2	BAND ASSEMBLY, air cleaner mounting (Includes tightening screw)
	70903775	4	CAPSCREW, 3/8"NC x 7/8"
	70904206	4	LOCKWASHER, 3/8"
	70911026	4	NUT, 3/8"NC
4	70644494	1	PLATE, adapting, air cleaner mounting (Graders prior to #1001 only)
	70903772	4	CAPSCREW, 5/16"NC x 1"
	70904205	4	LOCKWASHER, 5/16"
	70911025	4	NUT, 5/16"NC
5	70622939	1	HOSE, corrugated (12-1/2" long)
	70921916	2	CLAMP, hose, 3-13/16" to 4-3/4" diam.
6	70644480	1	TUBE, air inlet
	70903628	1	CAPSCREW, 3/8"NC x 5/8"
	70904206	1	LOCKWASHER, 3/8"
7	70644547	1	HOSE, corrugated (18-3/4" long)
	70921915	2	CLAMP, hose, 2-13/16" to 3-3/4" diam.
8	74388648	1	INDICATOR, air restriction (If for early units also order item 9)
9	73045531	1	FLANGE, mounting, air restriction indicator
	70923341	2	CAPSCREW, 1/4"NC x 3/4"
	70904204	2	LOCKWASHER, 1/4"
	70911024	2	NUT, 1/4"NC
10	70622447	1	FITTING, connector (Includes filter)
11	70093899	1	TUBE ASSEMBLY, indicator (Includes nuts)
	70922880	2	CONNECTOR, flare type, 1/8" tube, 1/8"NPT female
	70904273	1	NIPPLE, pipe, 1/8"NPT x 1" (Early units)
	70901467	1	NIPPLE, pipe, 1/8"NPT x 3/4" (Late units)

NOTE: See PAINTING AND MARKING for transfers



USAGE: Standard equipment on graders serial No. 67S05001 and up. Also see page 89D for optional oil-bath air cleaner.

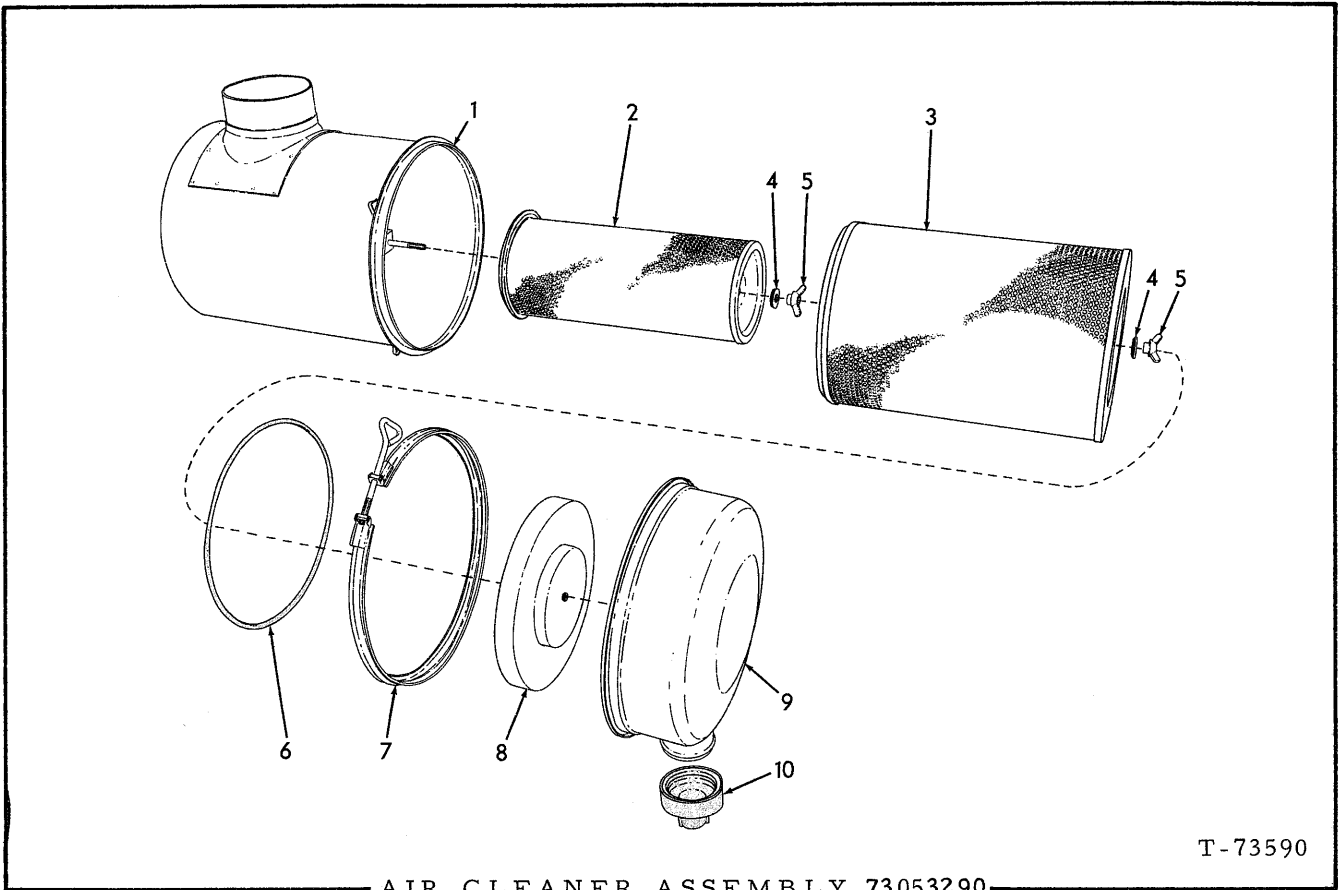
ITEM	PART NO.	QTY.	DESCRIPTION
1	70621979	1	RAINCAP (Includes mounting clamp)
2	73053290	1	CLEANER ASSY., air (See page 89C for parts)
3	70622081	2	BAND ASSY., mounting (Includes clamping screw)
	70916271	4	CAPSCREW, 3/8"NC x 1"
	70904206	4	LOCKWASHER, 3/8"
	70911026	4	NUT, 3/8"NC
4	70669447	1	BRACKET, mounting
	70916272	4	CAPSCREW, 3/8"NC x 1-1/4"
	70904206	4	LOCKWASHER, 3/8"
	70911026	4	NUT, 3/8"NC
5	73038683	1	ELBOW, rubber
	70921916	2	CLAMP, hose, 3-3/4" to 4-3/4" diam.
6	70669853	1	TUBE, cleaner to turbocharger (Graders unit #05001 thru #05129 and #05158 thru #05189)
	70669439	1	TUBE, cleaner to turbocharger (Graders unit #05190 and up; also #05130 thru #05157)
	70915408	1	CAPSCREW, 3/8"NC x 3/4"
	70904206	1	LOCKWASHER, 3/8"

(Continued)

AIR CLEANER (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION		
7	74357686	1	HOSE, adapting	} Graders unit #05001 thru #05129 and #05158 thru #05189	
	70921916	1	CLAMP, hose, 3-3/4" to 4-3/4" diam.		
	70922200	1	CLAMP, hose, 3-5/16" to 4-5/16" diam.		
	7	73038799	1	HOSE, adapting	} Graders unit #015190 and up. also #05130 thru #05157
		70921915	1	CLAMP, hose, 2-13/16" to 3-3/4" diam.	
		70921916	1	CLAMP, hose, 3-3/4" to 4-3/4" diam.	
8	70622447	1	FITTING, safety, restriction indicator line		
	70901676	1	ELBOW, pipe, 90°, 1/8"NPT		
9	70669441	1	TUBE ASSY., restriction indicator (Includes nuts)		
	70922880	1	CONNECTOR, flare type, 1/8" tube, 1/8"NPT female(upper)		
	70919094	1	CONNECTOR, flare type, 1/8" tube, 1/8"NPT male (lower)		
	70901676	1	ELBOW, pipe, 90°, 1/8"NPT		
	70904273	1	NIPPLE, pipe, 1/8"NPT x 1"		
10	73045531	1	FLANGE, mounting, restriction indicator		
	70915406	2	CAPSCREW, 1/4"NC x 3/4"		
	70904204	2	LOCKWASHER, 1/4"		
	70911024	2	NUT, 1/4"NC		
11	74388648	1	INDICATOR, air restriction (Serviced only as a unit)		

NOTE: See PAINTING AND MARKING for transfer

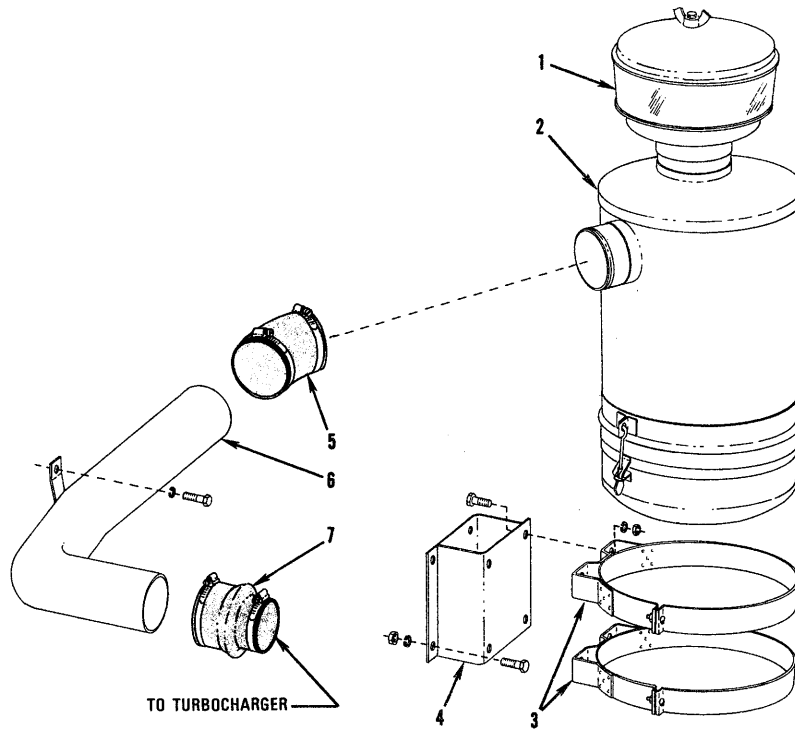


T-73590

AIR CLEANER ASSEMBLY 73053290

USAGE: See page 89A

ITEM	PART NO.	QTY.	DESCRIPTION	
1	-----	1	BODY (Not serviced separately)	
2	70662609	1	ELEMENT ASSY., safety (inner)	
3	70660360	1	ELEMENT ASSY., filtering (outer)	} Each includes item 4
4	-----	2	GASKET, element retaining nut	
5	70239517	2	NUT ASSY., element retaining (Includes item 4)	
6	70622895	1	O-RING, cup sealing	
7	70622897	1	CLAMP ASSY. (Includes tightening screw)	
8	70662257	1	BAFFLE ASSY. (Includes wing nut)	
9	70662258	1	CUP, sediment	
10	73042943	1	VALVE, unloading	



T-75543

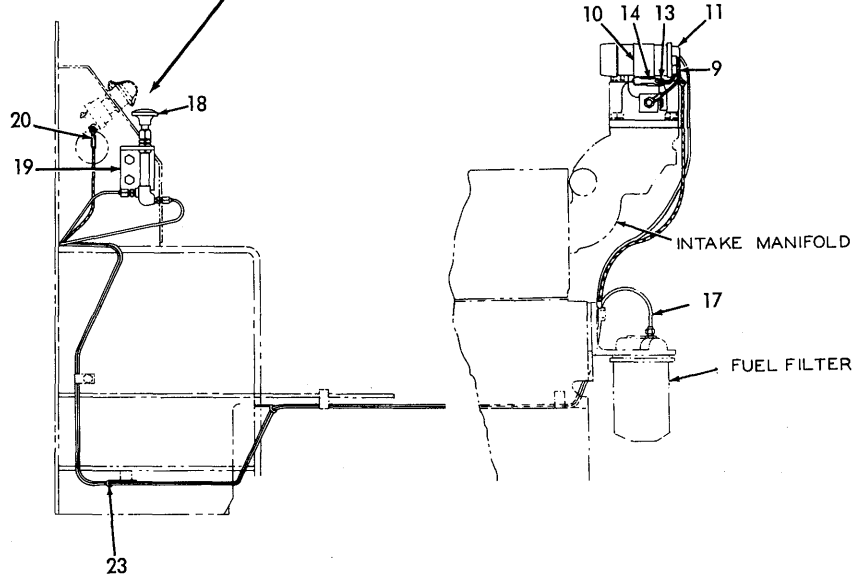
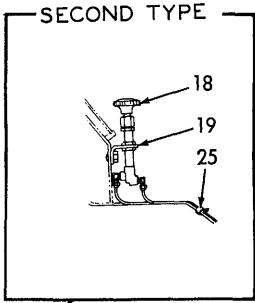
AIR CLEANER
(Oil-bath)

USAGE: Special equipment. For graders equipped with Model T-04 turbocharger only.

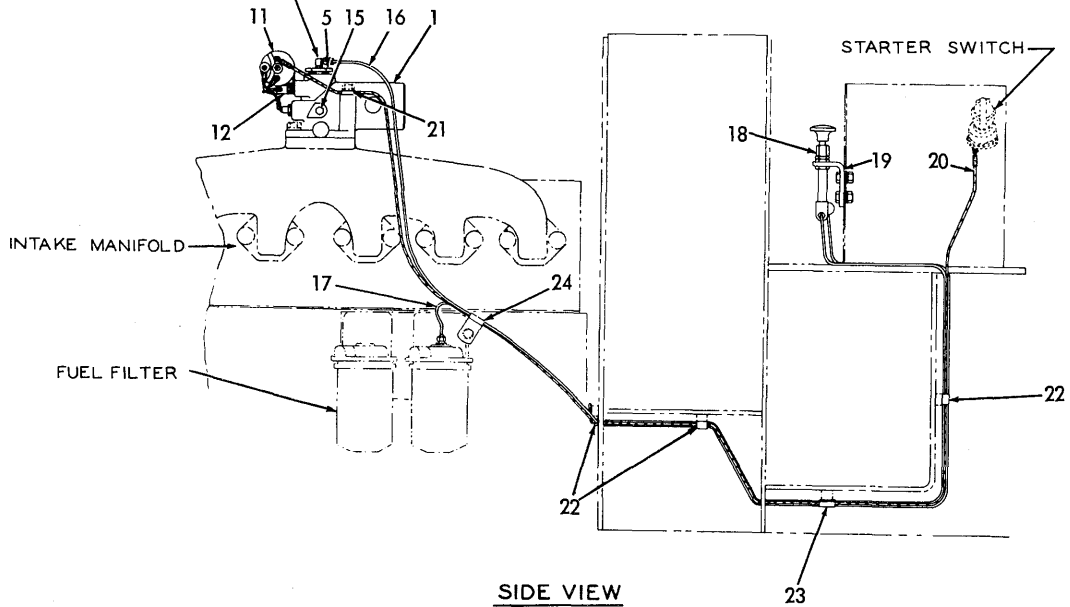
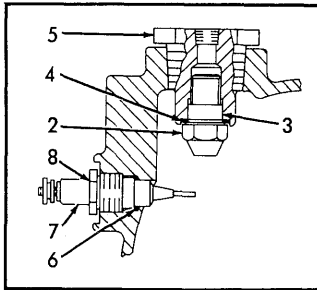
ITEM	PART NO..	QTY.	DESCRIPTION
1	70655272	1	PRE-CLEANER ASSY., air (See page 85 for parts)
2	70655270	1	CLEANER ASSY., air (See page 87 for parts)
3	70622081	2	BAND ASSY., mounting (Includes clamping screw)
	70916271	4	CAPSCREW, 3/8"NC x 1"
	70904206	4	LOCKWASHER, 3/8"
	70911026	4	NUT, 3/8"NC
4	70669563	1	BRACKET, mounting
	70916272	4	CAPSCREW, 3/8"NC x 1-1/4"
	70904206	4	LOCKWASHER, 3/8"
	70911026	4	NUT, 3/8"NC
5	70660252	1	HOSE, cleaner to tube
	70921916	2	CLAMP, hose, 3-3/4" to 4-3/8" diam.
6	70669559	1	TUBE, cleaner to turbocharger
	70915408	1	CAPSCREW, 3/8"NC x 3/4"
	70904206	1	LOCKWASHER, 3/8"
7	73038799	1	HOSE, adapting
	70921916	1	CLAMP, hose, 3-3/4" to 4-3/4" diam.
	70921915	1	CLAMP, hose, 2-13/16" to 3-1/4" diam.

NOTE: See PAINTING AND MARKING for transfer

(Added November 1969)



REAR VIEW



SIDE VIEW

ENGINE AIR HEATER

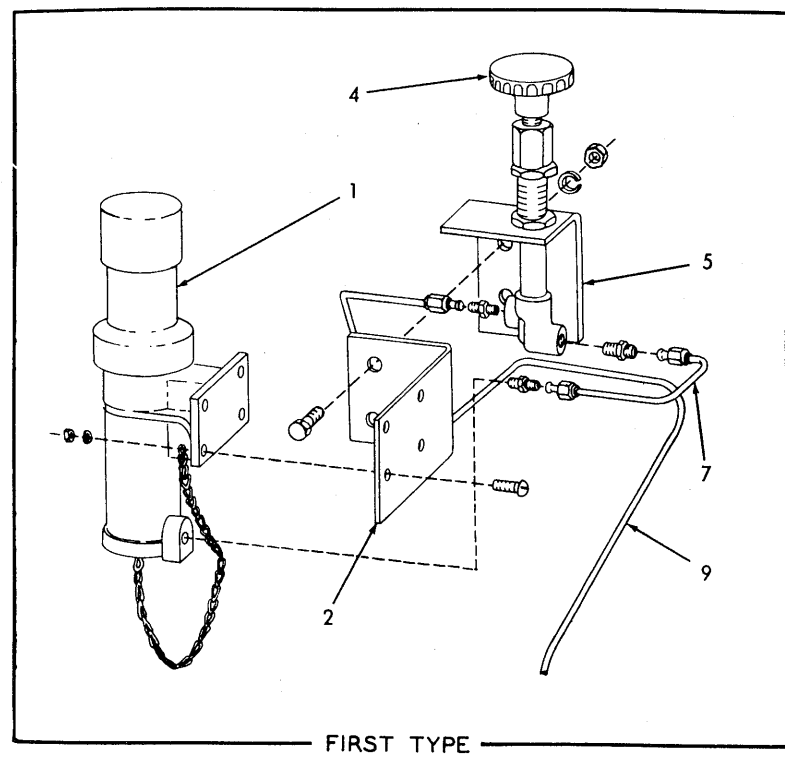
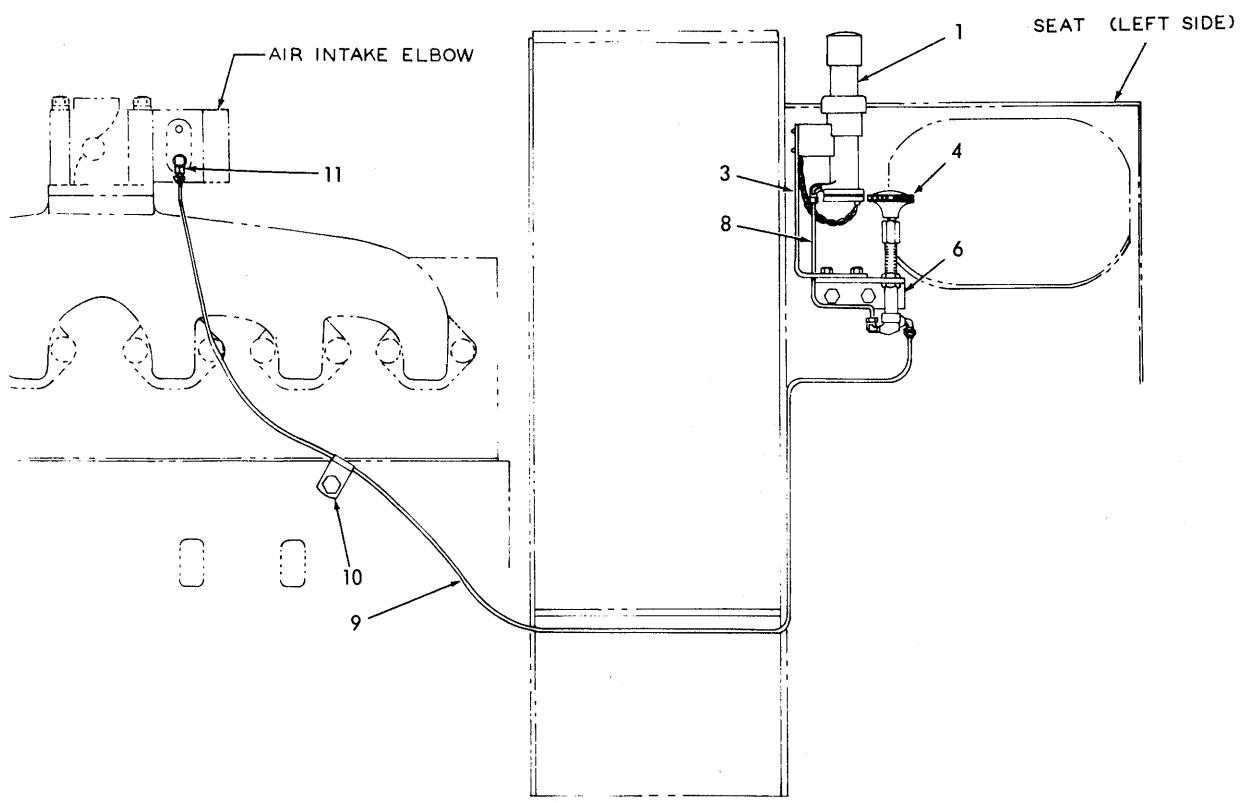
T-37252

ENGINE AIR HEATER

USAGE: Special Equipment on graders prior to serial No. 67S05001

ITEM	PART NO.	QTY.	DESCRIPTION
1	70634025	1	ELBOW, air intake (Replaces standard ELBOW 70634024 on graders prior to #1001)
	70646972	1	ELBOW, air intake (Replaces standard ELBOW 70646971 on graders #1001 and up)
2	70631224	1	NOZZLE ASSEMBLY, spray (Includes item 3)
3	70631225	1	STRAINER ASSEMBLY, spray nozzle (1 body and 1 screen)
4	70630787	1	WASHER, spray nozzle
5	70088038	1	BUSHING, spray nozzle
6	70631566	1	GASKET, insulator
7	70631226	1	INSULATOR PACKAGE (Includes terminal nut and item 6)
8	70630828	1	NUT, insulator retaining
9	70051006	1	CABLE, coil to insulator
10	70631199	1	BRACKET, ignition coil mounting
	70912226	2	SCREW, machine, fil-hd., 1/4"NC x 5/8"
	70904204	2	LOCKWASHER, 1/4"
11	70097026	1	COIL, ignition (Serviced only as a unit)
12	70630829	1	BRACKET, resistor mounting
13	70631198	1	WASHER, insulating
14	70630830	1	RESISTOR
	70915922	1	SCREW, machine, #8-32 x 2-1/4"
	70915923	1	LOCKWASHER, external teeth, #8
	70907154	1	NUT, #8-32
15	70630827	1	SCREW ASSEMBLY, electrode (1 screw and 1 electrode)
	70914686	1	WASHER, plain (copper)
16	70637535	1	TUBE ASSEMBLY, pump to nozzle (Includes nuts)
	70919093	2	ELBOW, flare type, 1/8"tube, 1/8"NPT male(1 less used prior to November 1966)
	70919094	1	CONNECTOR, flare type, 1/8"tube, 1/8"NPT male (Used prior to November 1966)
17	70632567	1	TUBE ASSEMBLY, fuel filter to pump (Includes nuts)
	70919094	1	CONNECTOR, flare type, 1/8"tube, 1/8"NPT male(1 additional used prior to November 1966)
	70919093	1	ELBOW, flare type, 1/8"tube, 1/8"NPT male(Effective Nov.1966)
18	70092160	1	PUMP ASSEMBLY (See page 94 for parts)
19	70632472	1	ANGLE, pump mounting (Used prior to November 1966)
	70910211	2	CAPSCREW, 3/8"NC x 1-1/8"
	70904206	2	LOCKWASHER, 3/8"
	70911026	2	NUT, 3/8"NC
20	70658672	1	BRACKET, pump mounting (Effective November 1966)
	70925087	2	SCREW, thread-forming, hex-hd., 5/16" x 5/8"
21	70637536	1	CABLE, switch to coil
22	70223502	1	CLIP, cable supporting (3/16" diam., 17/32" bolt-hole)
23	70034632	4	CLIP, supporting, tube and cable (5/16" diam., 13/32" bolt-hole)
24	70031456	1	CLIP, supporting, tube and cable (5/16" diam., 21/32" bolt-hole)
	70034632	1	CLIP, supporting, tube and cable (5/16" diam., 13/32" bolt-hole) (Tractors prior to #1209)
25	70048164	1	CLIP, supporting, tube and cable (5/16" diam., 17/32" bolt-hole) (Tractors #1209 and up)
	70239726	3	TIE, pump tubes (Effective November 1966)

NOTE: See PAINTING AND MARKING for transfers



ENGINE PRIMER

T-71868

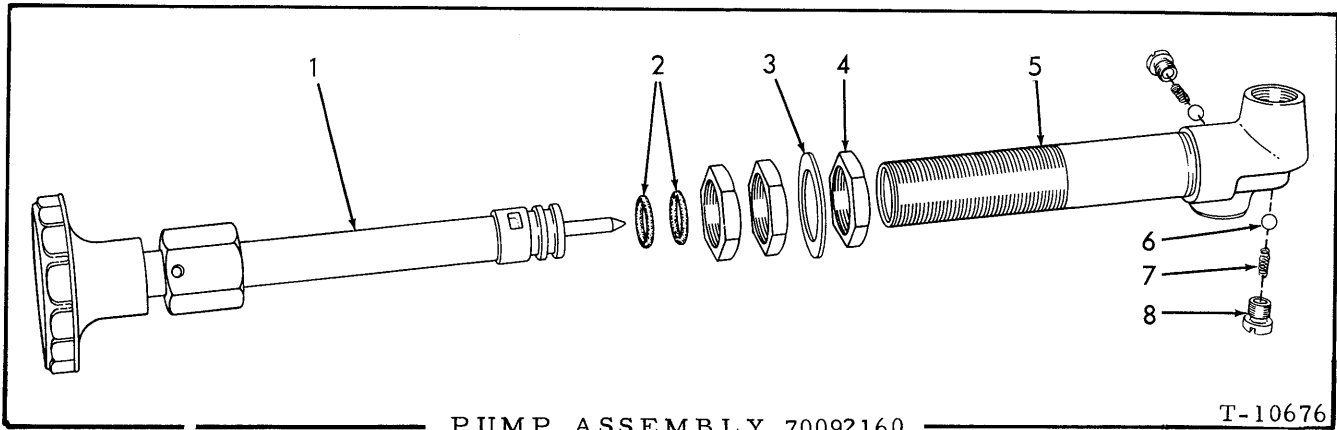
ENGINE PRIMER

USAGE: Special Equipment

* Used prior to December 1966
 ** Effective December 1966

ITEM	PART NO.	QTY.		DESCRIPTION
		*	**	
1	70075771	1	1	DISPENSER ASSEMBLY, priming fuel (See page 95 for parts)
	70901174	4	-	SCREW, machine, #10-24NC x 3/4"
	70904203	4	-	LOCKWASHER, #10
	70901310	4	-	NUT, #10-24NC
	70925085	-	3	SCREW, thread-forming, hex-hd., #10 x 1/2"
	70925086	-	1	SCREW, thread-forming, hex-hd., #10 x 3/4"
2	70632473	1	-	ANGLE, dispenser supporting
	70910211	2	-	CAPSCREW, 3/8"NC x 1-1/8"
	70904206	2	-	LOCKWASHER, 3/8"
	70911026	2	-	NUT, 3/8"NC
3	70658673	-	1	BRACKET, dispenser supporting
	70925085	-	2	SCREW, thread-forming, hex-hd., #10 x 1/2"
4	70092160	1	1	PUMP ASSEMBLY (See page 94 for parts)
5	70632472	1	-	ANGLE, pump supporting
6	70658672	-	1	BRACKET, pump supporting
	70925087	-	2	SCREW, thread-forming, hex-hd., 5/16" x 5/8"
7	70632474	1	-	TUBE ASSEMBLY, dispenser to pump (Includes nuts)
	70919094	2	-	CONNECTOR, flare type, 1/8" tube, 1/8"NPT male
8	70095020	-	1	TUBE ASSEMBLY, dispenser to pump (Includes nuts)
	70919093	-	2	ELBOW, flare type, 1/8" tube, 1/8"NPT male
9	70639154	1	1	TUBE, pump discharge (110" long)(Graders prior to unit #05001)
	70096678	-	1	TUBE, pump discharge (94" long)(Graders unit #05001 and up)
	70919100	1	1	NUT, flare type, 1/8" tube
	70919099	1	1	SLEEVE, flare type, 1/8" tube
	70919094	1	-	CONNECTOR, flare type, 1/8" tube, 1/8"NPT male
	70919093	-	1	ELBOW, flare type, 1/8" tube, 1/8"NPT male
10	70066260	6	-	CLIP, tube supporting (1/8" diam., 13/32" bolt-hole)
	70065953	-	1	CLIP, tube supporting (1/8" diam., 17/32" bolt-hole)(Graders prior to unit #05001)
11	70066517	1	1	ELBOW ASSEMBLY, fuel spray (Includes nozzle, nut and sleeve. Serviced only as a unit)

NOTE: See PAINTING AND MARKING for primer instruction transfer.

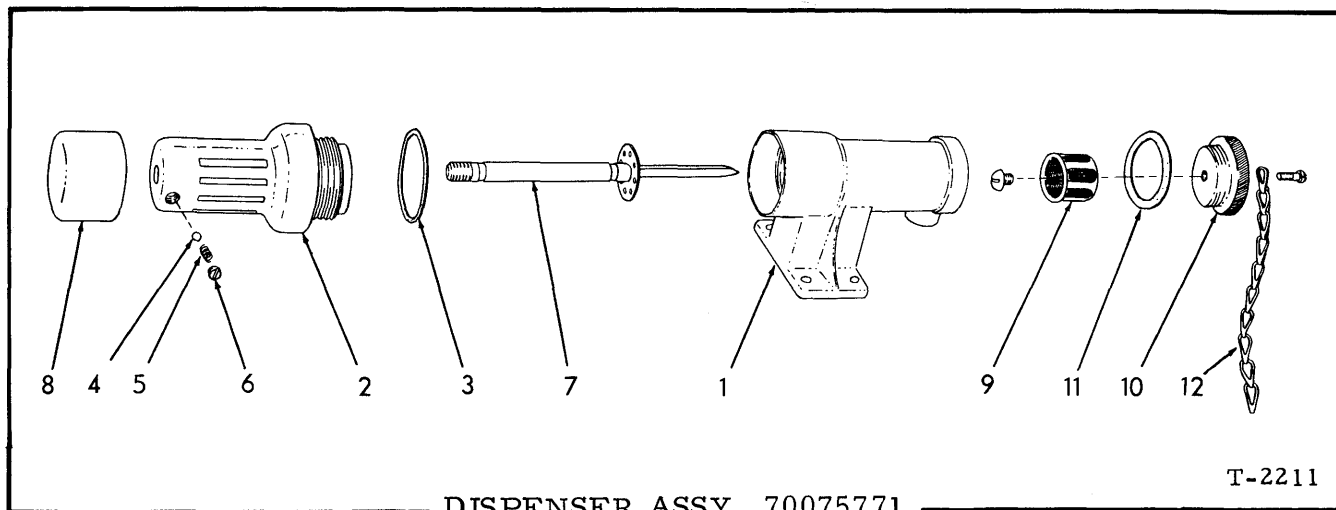


PUMP ASSEMBLY 70092160

T-10676

USAGE: See pages 91 and 93

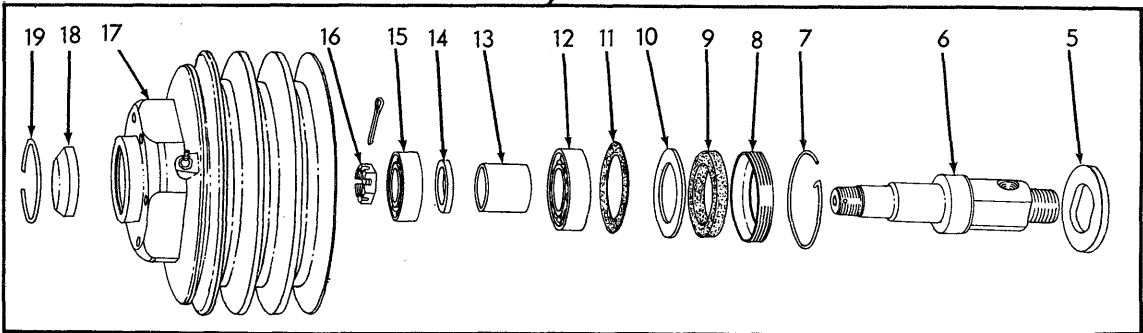
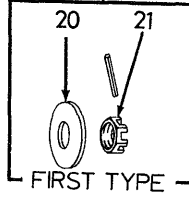
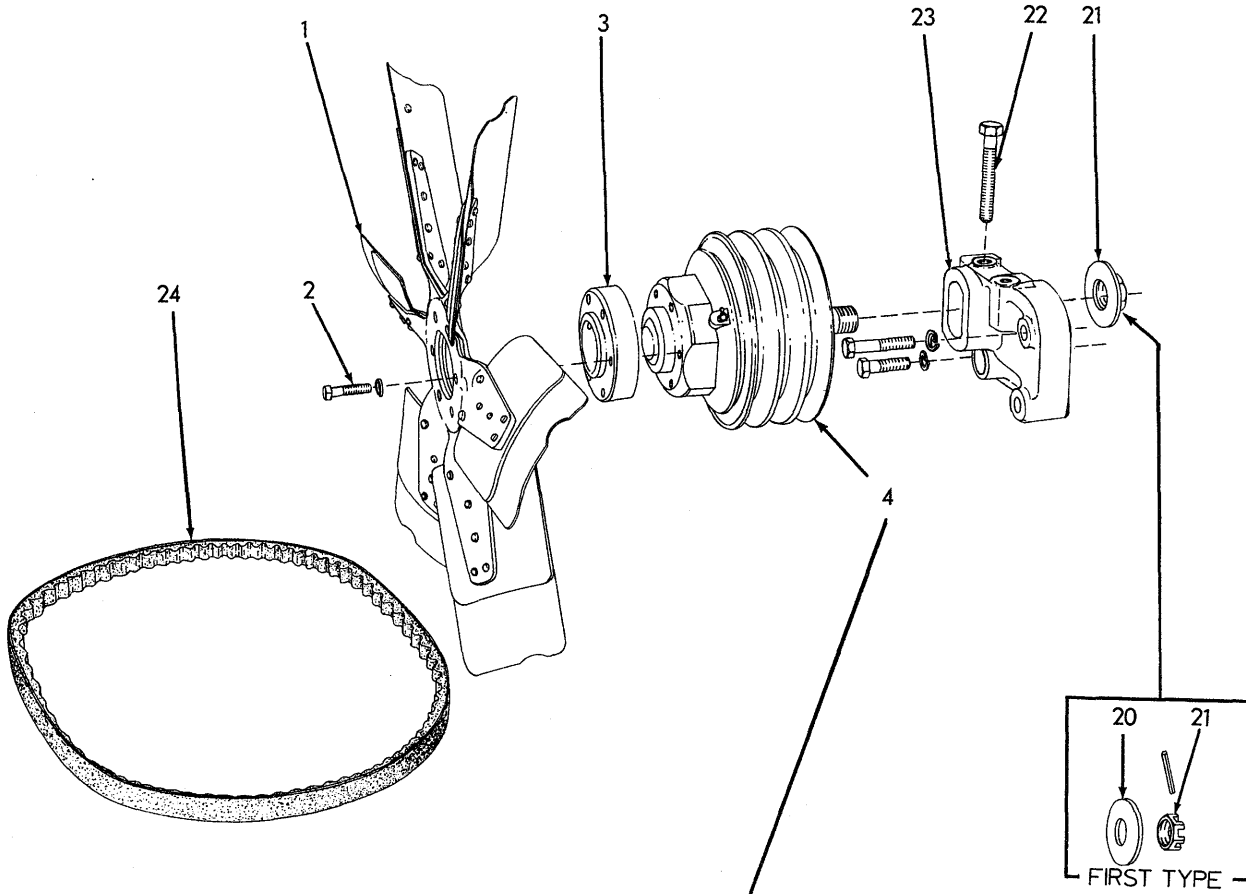
ITEM	PART NO.	QTY.	DESCRIPTION
1	-----	1	PISTON ASSEMBLY (Not serviced separately)
2	70923560	2	O-RING, plunger
3	70066873	1	WASHER, mounting
4	70066872	3	NUT, mounting
5	-----	1	BARREL ASSEMBLY (Not serviced separately)
6	70066876	2	BALL, check valve (5/32" diam.)
7	70066875	2	SPRING, check valve
8	70066874	2	RETAINER, check valve



DISPENSER ASSY. 70075771

USAGE: See page 93

ITEM	PART NO.	QTY.	DESCRIPTION
1	70068878	1	BODY, fuel dispenser
2	70068879	1	CHAMBER, fuel dispenser
3	70069164	1	GASKET, fuel dispenser chamber
4	70905357	1	BALL, steel, 3/16" diam.
5	70066251	1	SPRING, plunger locking ball
6	70066252	1	PLUG, retaining, locking ball spring
7	70066255	1	PLUNGER, fuel dispenser
8	70068881	1	KNOB, fuel dispenser plunger
9	70068875	1	STRAINER, fuel dispenser
	70915432	1	SCREW, machine, 1/4"NC x 5/16"
10	70075770	1	PLUG, fuel dispenser strainer
11	70068876	1	GASKET, fuel dispenser strainer plug
12	70075769	1	CHAIN, strainer plug retaining
	70901781	1	SCREW, machine, fil-hd., #10-32NF x 1/2"



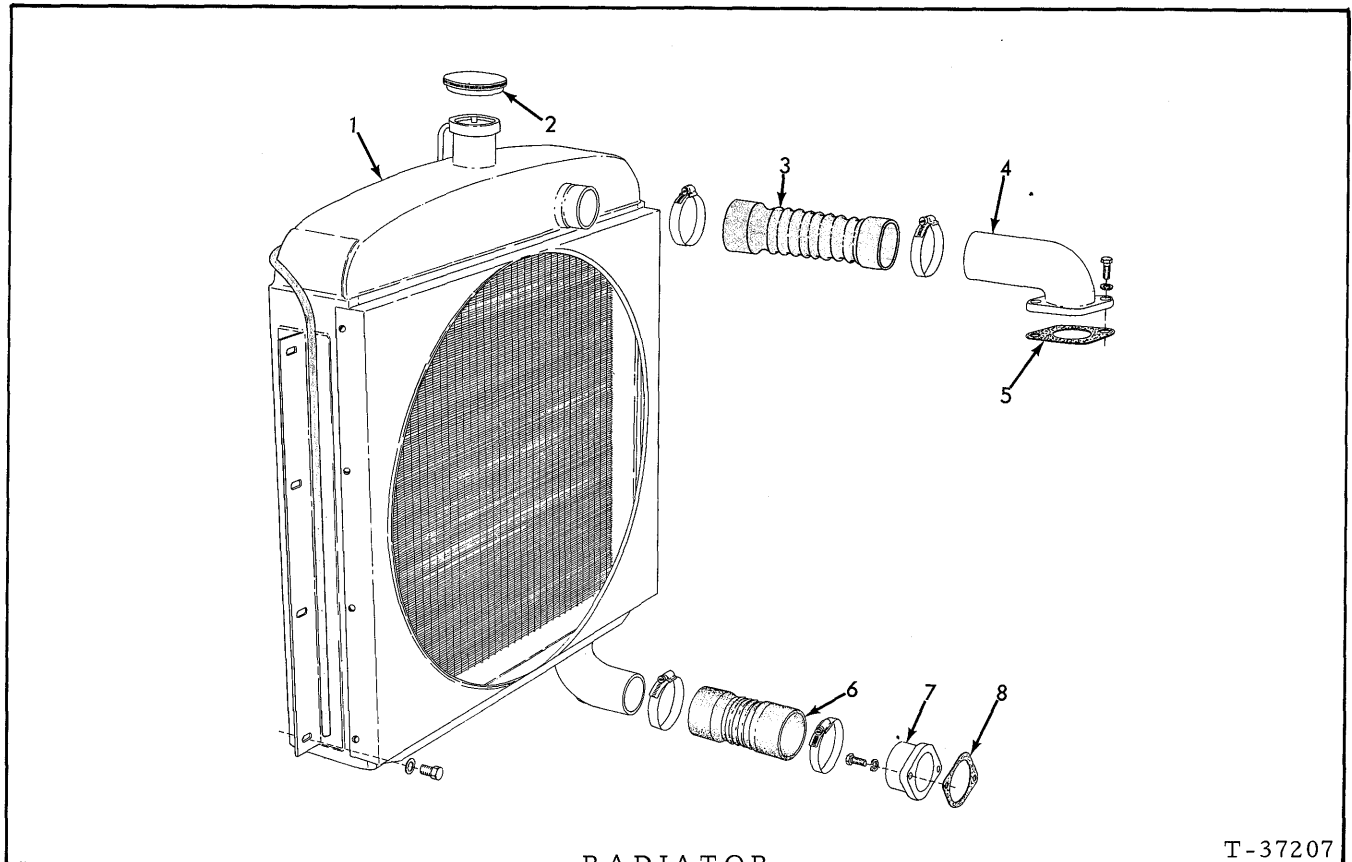
FAN

T-14061

FAN

ITEM	PART NO.	QTY.	DESCRIPTION
1	70090155	1	FAN, cooling
2	70920275	6	CAPSCREW, 3/8"NC x 3" (Graders prior to unit #05001)
	70912069	6	CAPSCREW, 3/8"NC x 2-1/2" (Graders unit #05001 and up)
	70904206	6	LOCKWASHER, 3/8"
3	70633907	1	SPACER, fan (2-1/16" wide)(Graders prior to unit #05001)
	70090876	1	SPACER, fan (1-5/16" wide)(Graders unit #05001 and up)
4	74339455	1	HUB ASSEMBLY (Consists of items 5 thru 19)(If for engines prior to #10-10846 also order NUT 74339459)
5	74056232	1	WASHER, plain, spindle clamping, front
6	74056068	1	SPINDLE (If for engines prior to #10-10846 also order NUT 74339459)
7	74371707	1	LOCKWIRE, fan hub
8	74040386	1	RETAINER, spindle sealing washer
9	74040385	1	WASHER, spindle sealing (cork)
10	74040384	1	WASHER, retaining, rear bearing
11	74640976	1	GASKET, bearing retaining washer
12	74253863	1	BEARING, ball, rear
13	74040383	1	SPACER, spindle bearings
14	74640978	1	WASHER, spacing, front bearing
15	74253862	1	BEARING, ball, front
16	74348502	1	NUT, spindle
	70911064	1	PIN, cotter, 1/8" x 1-3/8"
17	74054345	1	HUB, fan
	70915276	2	FITTING, lubricating, 90°, 1/8"NPT
18	70088561	1	CAP, hub
19	74042081	1	RING, snap, cap retaining
20	74371703	1	WASHER, plain, spindle clamping, rear (Engines prior to #10-10846)
21	70911174	1	NUT, jam, slotted, 1"NF
	70915946	1	PIN, spring, 5/32" x 1-1/4" } Engines prior to #10-10846)
	74339459	1	NUT, flanged (Effective with engine #10-10846 and #11-13980)
22	74003603	1	SCREW, fan belt adjustment
23	74338812	1	BRACKET, fan mounting
	70916316	2	CAPSCREW, 1/2"NC x 2-1/2"
	70916313	1	CAPSCREW, 1/2"NC x 1-3/4"
	70904208	3	LOCKWASHER, 1/2"
24	74320755	1	BELT SET, fan driving (Consists of 2 matched belts)

(Revised May 1978)

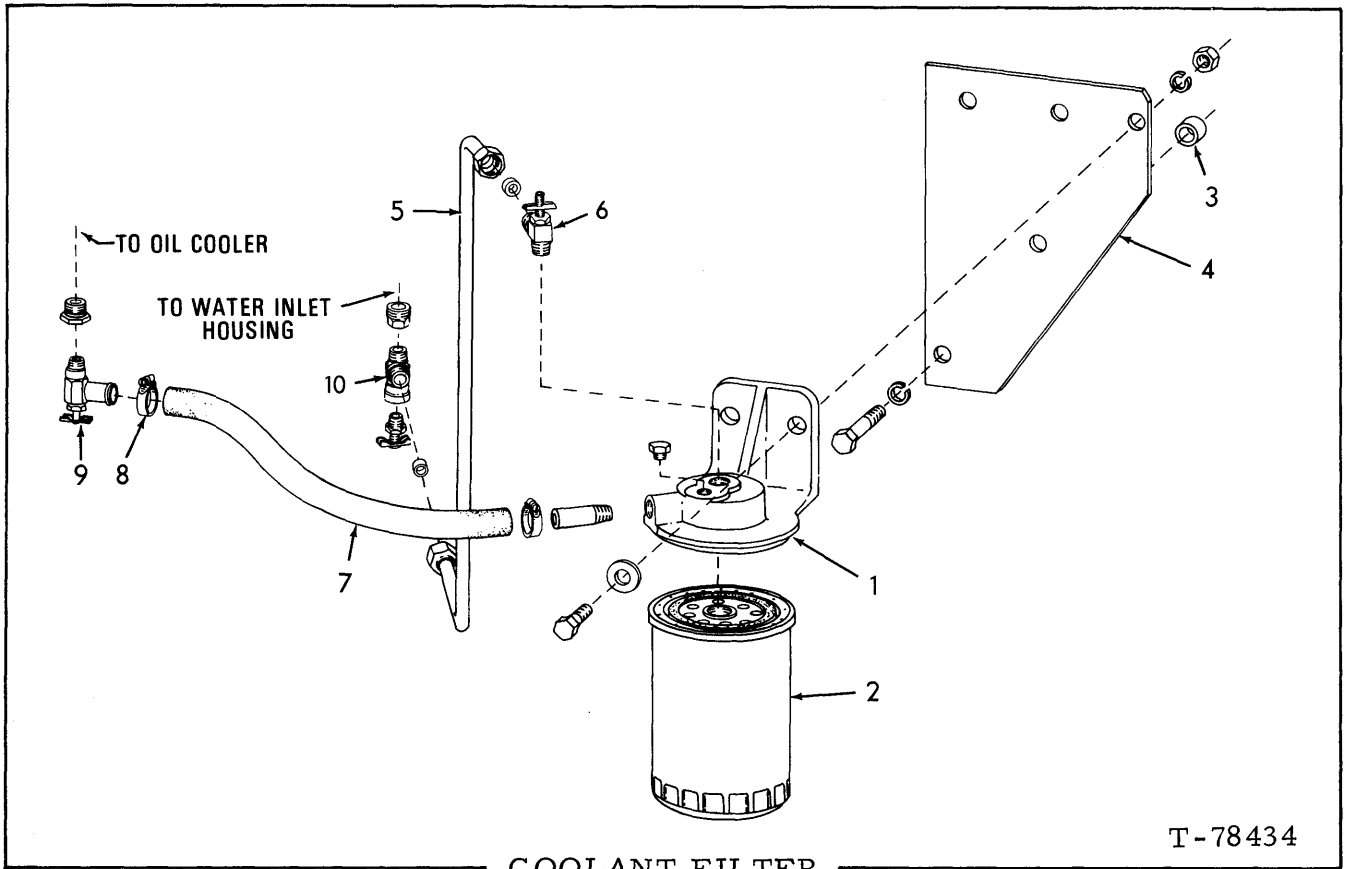


RADIATOR

T-37207

ITEM	PART NO.	QTY.	DESCRIPTION
1	70664861	1	RADIATOR ASSY., engine cooling (Includes item 2)(Graders prior #05001. If for graders prior to #1915 also order HOSE 70664873 and ELBOW 70664872)
	70669250	1	RADIATOR ASSY., engine cooling (Includes item 2)(Graders unit #05001 and up)
	70916381	8	CAPSCREW, 3/8"NF x 3/4"
	70911115	8	WASHER, plain, SAE std., 3/8"
2	70074263	1	CAP, radiator (Includes gasket which is not serviced separately) (Used prior to grader #425)
	70087528	1	CAP, radiator (Pressure type)(Effective with grader #425)
3	70088349	1	HOSE, indicator inlet(4-1/2" long)(Graders prior to #1915)
	70664873	1	HOSE, radiator inlet (9" long)(Graders #1915 and up)
	70921913	2	CLAMP, hose, 1-13/16" to 2-3/4" diam.
4	70664872	1	ELBOW, engine water outlet(If for graders prior to #1915 also order HOSE 70664873)
	70916254	2	CAPSCREW, 7/16"NC x 1"
	70904207	2	LOCKWASHER, 7/16"
5	74300145	1	□ GASKET, engine water outlet elbow
6	70088348	1	HOSE, radiator outlet
	70921914	2	CLAMP, hose, 2-5/16" to 3-1/4" diam.
7	74321254	1	PIPE, engine water inlet
	70916271	2	CAPSCREW, 3/8"NC x 1"
	70904206	2	LOCKWASHER, 3/8"
8	74346456	1	□ GASKET, engine water inlet pipe

(Revised May 1978)



USAGE: Engines serial No. 11-22075 and up.

ITEM	PART NO.	QTY.	DESCRIPTION
1	74393427	1	BASE ASSY., filter (Includes PLUG indented below)
	70919134	1	PLUG, pipe, 1/8" NPT
	70916197	2	CAPSCREW, 7/16" NC x 1-1/4"
	70910919	2	WASHER
	70914678	2	LOCKWASHER, 7/16"
	70912201	2	NUT, 7/16" NC
2	74393504	1	FILTER (Original equipment. All purpose, recommended for use with plain water as well as most types of permanent and non-permanent anti-freeze except "Dowtherm" 209)
	74393505	1	FILTER (Cromate type, for use with "Dowtherm" 209)
3	74365346	3	SPACER, mounting bracket
	74320927	1	BRACKET, mounting
4	70920275	3	CAPSCREW, 3/8" NC x 3"
	70910287	3	LOCKWASHER, 3/8"
5	74320930	1	TUBE, water outlet
	70917807	2	SLEEVE, Imperial, 3/8" tube
6	70917810	2	NUT, Imperial, 3/8" tube
	70928947	1	VALVE, shut-off

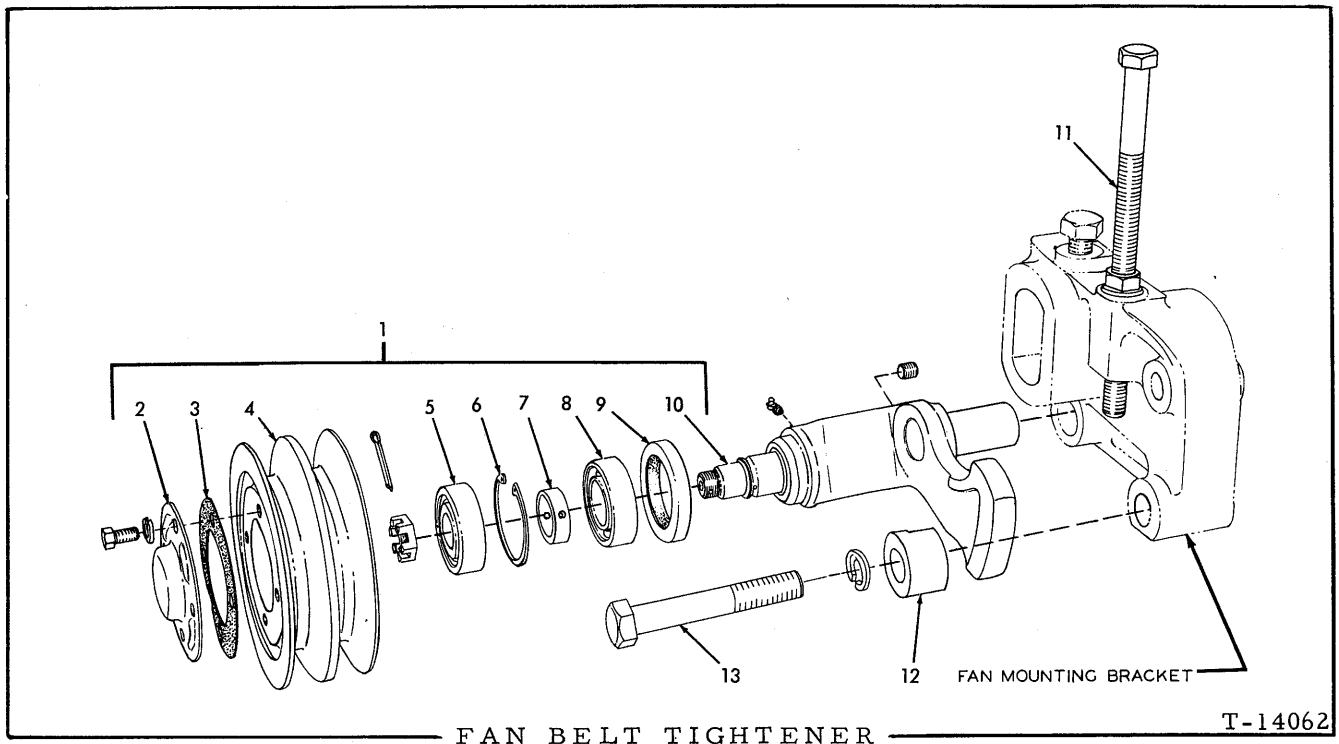
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(Added May 1978)

COOLANT FILTER (Continued)

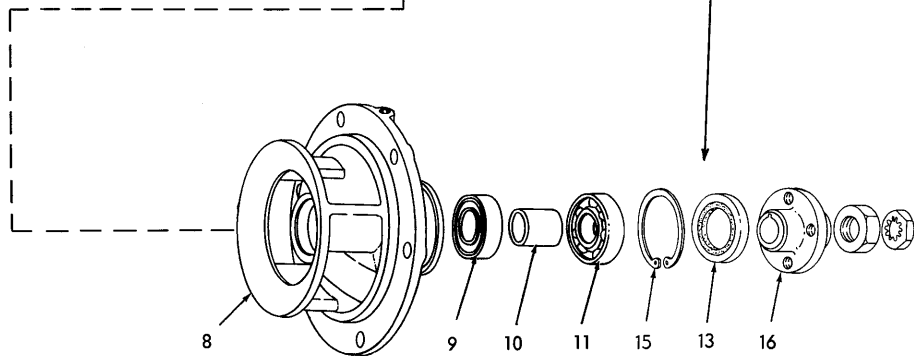
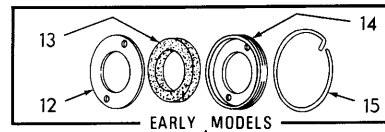
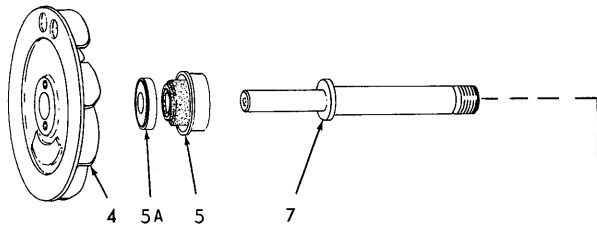
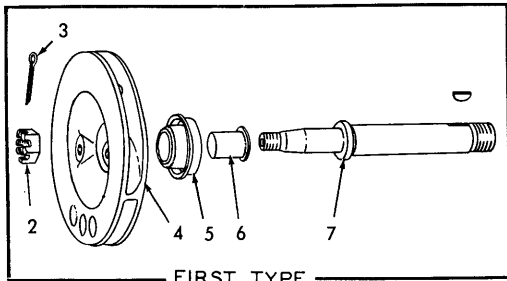
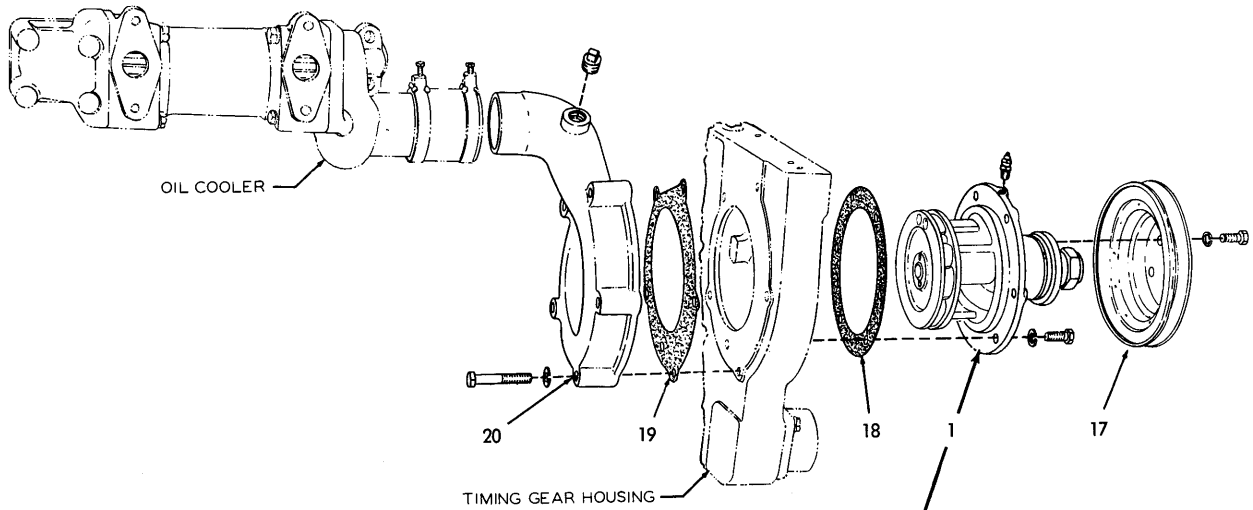
ITEM	PART NO.	QTY.	DESCRIPTION
7	74393681	1	HOSE, inlet (15-1/2" long)
	70917026	1	NIPPLE, pipe, 3/8" NPT x 1-1/2"
8	70921911	4	CLAMP, hose
9	70089894	1	COCK, shut-off
	70904271	1	BUSHING, pipe, 1/2" NPT to 3/8" NPT
10	70925227	1	TEE
	70901826	1	BUSHING, pipe, 3/8" NPT to 1/4" NPT
	70918849	1	COCK, drain, 1/4" NPT

(Revised May 1981)



ITEM	PART NO.	QTY.	DESCRIPTION
1	74348431	1	PULLEY ASSEMBLY (Consists of items 2 thru 10)
2	74348118	1	COVER, pulley
	70915809	4	CAPSCREW, 5/16"NC x 3/4"
	70904205	4	LOCKWASHER, 5/16"
3	74348122	1	GASKET, pulley cover
4	74348421	1	PULLEY
5	70042979	1	BEARING, ball, front
6	74252137	1	RING, snap, pulley retaining
7	74348121	1	SPACER, bearing
8	74253862	1	BEARING, ball, rear
9	74253765	1	SEAL, oil
10	74348283	1	LEVER ASSEMBLY (Includes PLUG and FITTING indented below)
	70910230	1	PLUG, pipe, slotted-hd., 1/8"NPT
	70915275	1	FITTING, lubricating, 65°, 1/8"NPT
	70913470	1	NUT, jam, slotted, 5/8"NF
	70900807	1	PIN, cotter, 1/8" x 1-1/4"
11	74348205	1	SCREW, belt adjustment (1/2"NC x 8")
	70904208	1	LOCKWASHER, 1/2"
	70910510	1	NUT, jam, 1/2"NC
12	74348442	1	CLAMP, locking
13	70921539	1	CAPSCREW, 1/2"NC x 3-1/2"
	70904208	1	LOCKWASHER, 1/2"

(Revised May 1978)



WATER PUMP

T-27396

(Revised May 1978)

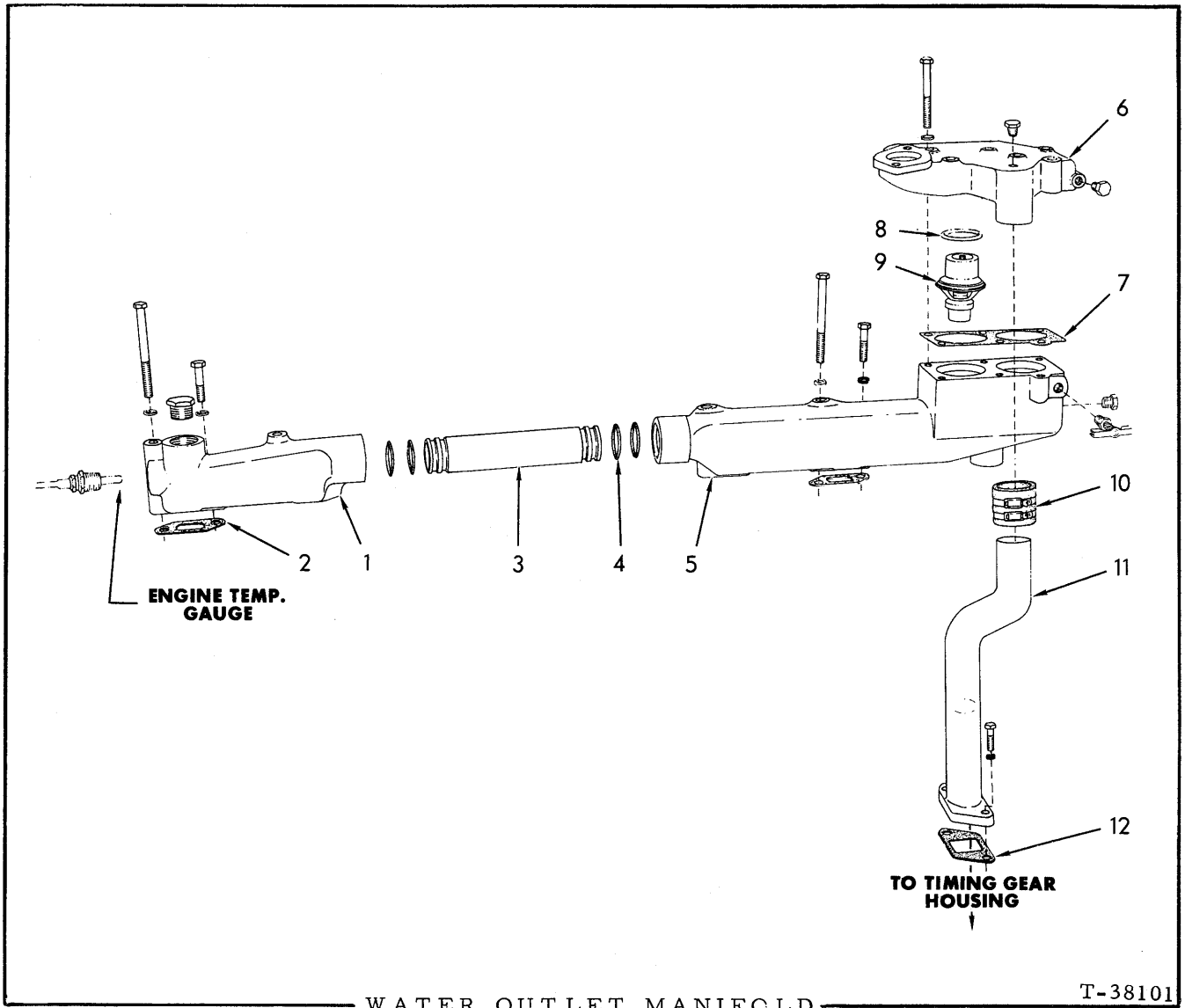
WATER PUMP

*Engines prior to serial No. 10-14129

**Engines serial No. 10-14129 and up; also
11-13980 and up

***Service replacement

ITEM	PART NO.	QUANTITY	DESCRIPTION
		* ** ***	<u>NOTE:</u> See GENERATOR for listing of driving belt.
1	74338662	1 - -	PUMP ASSY. (Consists of items 2 thru 16)
	74320996	- 1 -	PUMP ASSY. (Consists of items 2 thru 16 and 18)
	74321719	- - 1	PUMP ASSY. (Consists of items 2 thru 16 and 18)
	70914465	1 1 1	FITTING, lubricating, straight, 1/8"NPT
	70916271	6 6 6	CAPSCREW, 3/8"NC x 1"
	70904206	6 6 6	LOCKWASHER, 3/8"
2	74375686	1 - -	NUT, impeller retaining
3	74041097	1 - -	PIN, cotter, impeller nut
4	74339103	1 - -	IMPELLER ASSY. (Includes ceramic insert)
	-----	- 1 1	IMPELLER ASSY. (Includes ceramic insert) (Order item 21)
5	74507091	1 1 -	SEAL ASSY. (Serviced only as a unit)
	-----	- - 1	SEAL ASSY. } Order item 22
5A	-----	- - 1	SEAL
6	74507084	1 1 -	FLINGER, water
7	74348757	1 - -	SHAFT ASSY. (Includes item 6)
	70905121	1 - -	KEY, #5 woodruff, 1/8" x 5/8"
	74358788	- 1 1	SHAFT ASSY
8	-----	1 1 1	BODY, water pump (Not serviced. Order PUMP ASSY. 74321719)
9	74044212	1 1 1	BEARING, ball, rear
10	74044211	1 1 1	SPACER, bearing
11	74044210	1 1 1	BEARING, ball, front
12	74044209	1 1 -	WASHER, retaining
13	74348825	1 1 -	WASHER, sealing
	74321697	- - 1	SEAL
14	74335320	1 1 -	RETAINER, sealing washer
15	74053968	1 1 -	RING, snap, sealing washer retainer
	70927801	- - 1	RING, retaining
16	74335808	1 - -	FLANGE, driving pulley
	74359280	- 1 1	FLANGE, driving pulley
	70910847	1 1 1	NUT, 3/4"NF
	70917680	1 1 1	NUT, Pal locking, 3/4"
17	74339503	1 1 1	PULLEY
	70916206	4 - -	CAPSCREW, 5/16"NF x 7/8" (Early units)
	70911169	4 4 4	CAPSCREW, 5/16"NF x 5/8" (Late units)
	70904205	4 4 4	LOCKWASHER, 5/16"
18	74346744	1 1 1	□GASKET, water pump
19	74335056	1 1 1	□GASKET, water pump volute
20	74321266	1 1 1	VOLUTE
	70920131	1 1 1	PLUG, pipe, 3/8"NPT
	70916274	5 5 5	CAPSCREW, 3/8"NC x 2-1/4"
	70904206	5 5 5	LOCKWASHER, 3/8"
21	74062124	1 1 1	IMPELLER AND SEAL KIT (Includes items 4, 5, 5A and Instruction Sheet)
22	74062126	- 1 1	SEAL KIT (Includes items 5, 5A and Instruction Sheet)



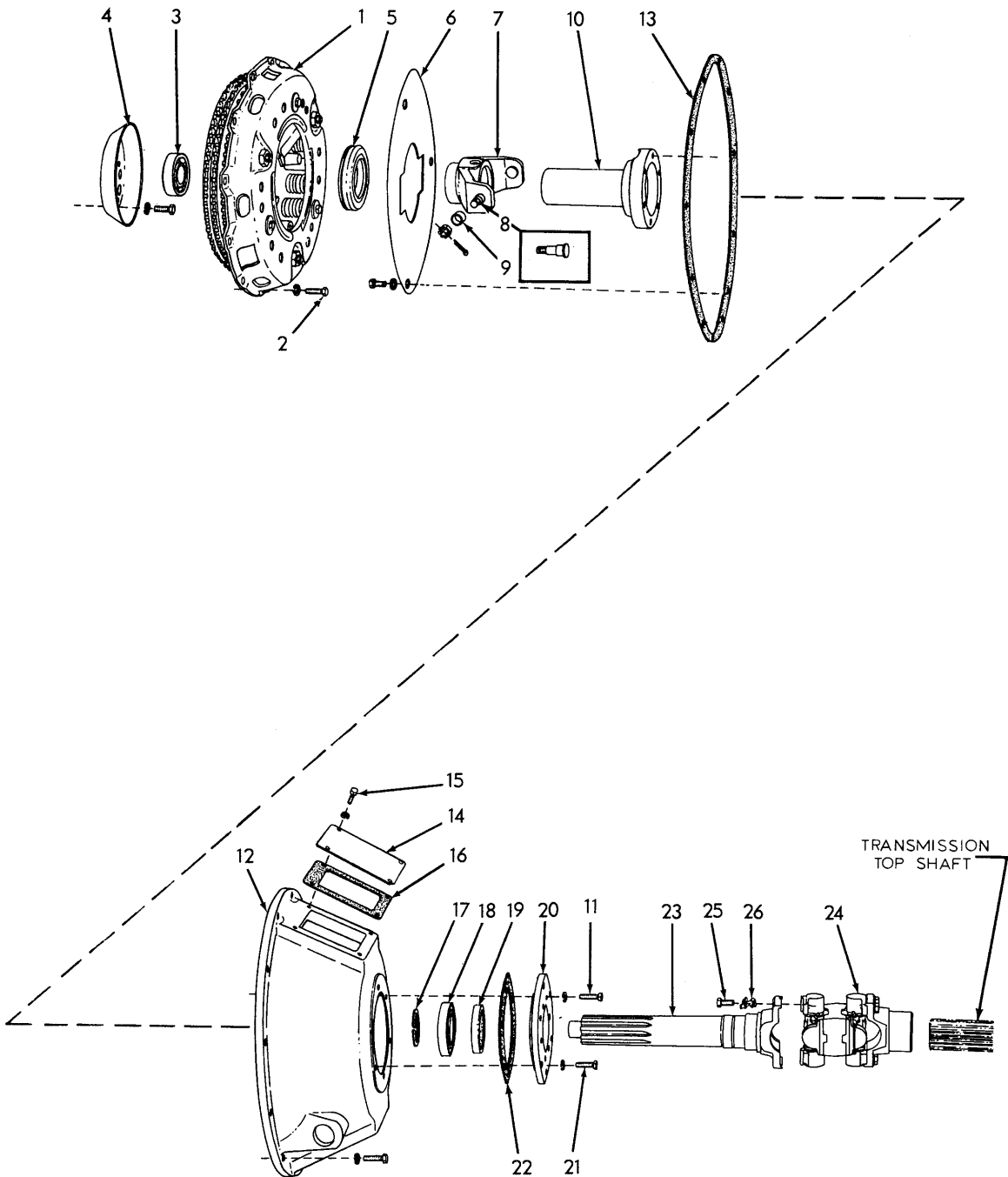
ITEM	PART NO.	QTY.	DESCRIPTION
1	74336506	1	MANIFOLD, water outlet, rear
	70920525	1	PLUG, pipe, hex-hd., 3/4"NPT (Not original equipment)
	70914847	2	CAPSCREW, 3/8"NC x 1-1/2"
	70916275	2	CAPSCREW, 3/8"NC x 3-3/4"
	70904206	4	LOCKWASHER, 3/8"
2	74336182	4	□ GASKET, water manifold
3	74336156	1	TUBE, water manifold connecting
4	70923813	4	□ O-RING, water manifold connecting tube
5	74359948	1	MANIFOLD, water outlet, front
	70920333	1	PLUG, hex-hd., 3/8"NPT
	70914847	2	CAPSCREW, 3/8"NC x 1-1/2"
	70916275	2	CAPSCREW, 3/8"NC x 3-3/4"
	70904206	4	LOCKWASHER, 3/8"
	70912415	1	COCK, T-handle, 1/4"NPT (air venting)

(Continued)

WATER OUTLET MANIFOLD (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
6	74358754	1	HOUSING ASSY., thermostat (Includes item 8)
	70919840	2	PLUG, pipe, hex-hd., 1/4" NPT
	70919227	6	CAPSCREW, 3/8" NC x 3-1/4"
	70904206	6	LOCKWASHER, 3/8"
7	74336263	1	GASKET, thermostat housing
8	74317554	2	SEAL, thermostat
9	74354537	2	THERMOSTAT
10	74337602	1	HOSE, water by-pass pipe
	70922198	2	CLAMP, hose
11	74359947	1	PIPE, water by-pass
	70916272	2	CAPSCREW, 3/8" NC x 1-1/4"
	70904206	2	LOCKWASHER, 3/8"
12	74347031	1	<input type="checkbox"/> GASKET, water by-pass pipe

(Revised May 1978)

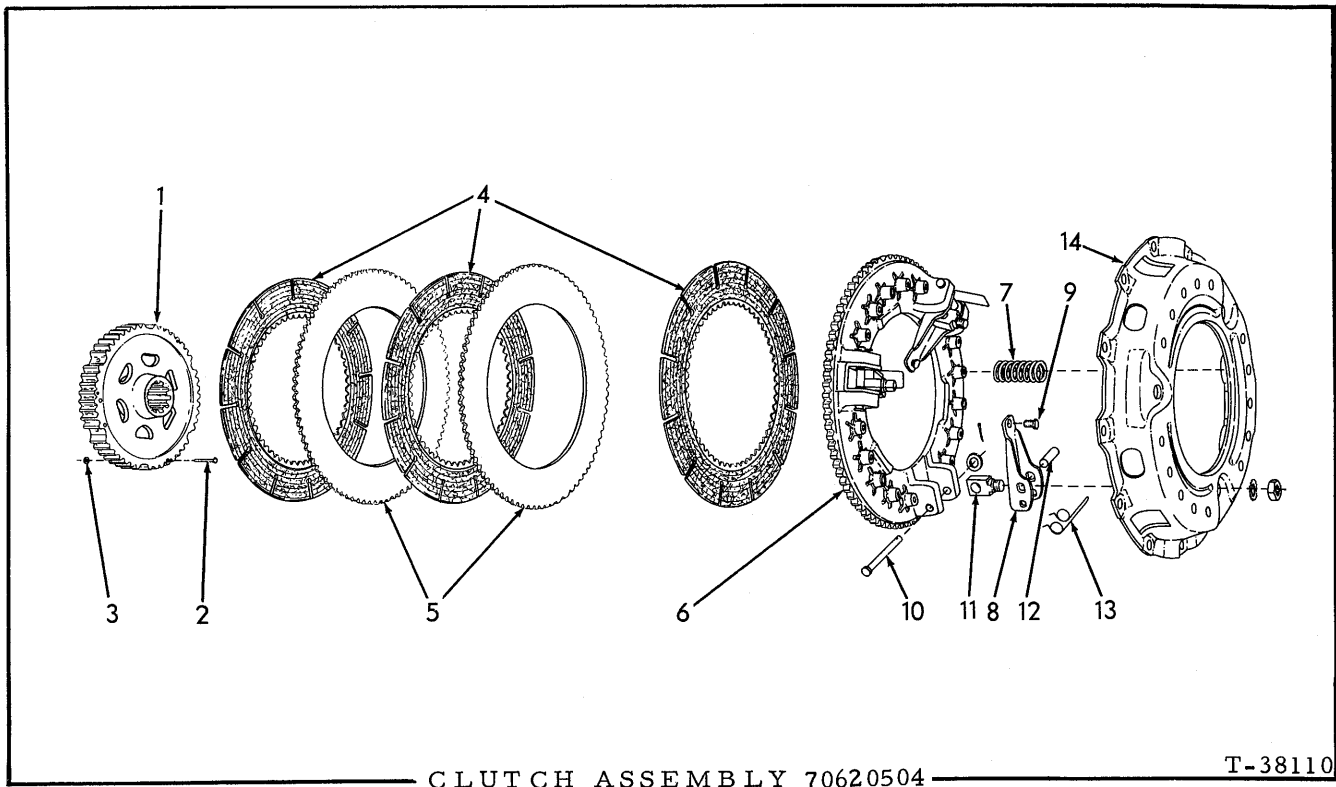


ENGINE CLUTCH AND UNIVERSAL JOINT

T-71379

ENGINE CLUTCH AND UNIVERSAL JOINT

ITEM	PART NO.	QTY.	DESCRIPTION
1	70620504	1	CLUTCH ASSEMBLY (See page 106 for parts)
2	70916271	12	CAPSCREW, 3/8"NC x 1"
	70904206	12	LOCKWASHER, 3/8"
3	70042980	1	BEARING, ball, clutch shaft, rear (In flywheel)
4	70630621	1	SLINGER, oil
	70916271	4	CAPSCREW, 3/8"NC x 1"
	70904206	4	LOCKWASHER, 3/8"
5	70085651	1	BEARING, ball, clutch release
6	70621574	1	DISC, oil baffle
	70916268	3	CAPSCREW, 3/8"NC x 5/8"
	70904206	3	LOCKWASHER, 3/8"
7	70620636	1	CARRIER ASSEMBLY, release bearing (Includes item 8)
8	70054119	2	PIN, release bearing carrier
	70910867	2	NUT, slotted, 1/2"NF
	70910967	2	PIN, cotter, 1/8" x 7/8"
9	70054118	2	BUSHING, carrier pin
10	70620624	1	SLEEVE, release bearing carrier
11	70624164	5	CAPSCREW, 3/8"NC x 1-3/8"
	70921502	1	CAPSCREW, 3/8"NC x 1-3/4" (also attaches shifting lock lever bracket)
	70904206	6	LOCKWASHER, 3/8"
12	70623920	1	HOUSING, engine clutch
	70919225	12	CAPSCREW, 3/8"NC x 1-3/8"
	70904206	12	LOCKWASHER, 3/8"
13	70078966	1	GASKET, housing
14	70621191	1	PLATE, cover, clutch inspection
15	70624163	4	CAPSCREW, 1/4"NC x 1/2"
	70904204	4	LOCKWASHER, 1/4"
16	70621192	1	GASKET, inspection plate
17	70050292	1	RING, snap, clutch shaft front bearing
18	74254151	1	BEARING, ball, clutch shaft, front
19	70074961	1	SEAL, oil, clutch shaft front bearing
20	70074957	1	ADAPTER, carrier sleeve
21	70624164	4	CAPSCREW, 3/8"NC x 1-3/8"
	70921502	2	CAPSCREW, 3/8"NC x 1-3/4" (also attaches shifting lock lever bracket)
	70904206	6	LOCKWASHER, 3/8"
22	70621187	1	GASKET, adapter
23	70085643	1	SHAFT, clutch
24	70076438	1	JOINT ASSEMBLY, universal (See page 107 for parts)
25	70916382	4	CAPSCREW, 3/8"NF x 7/8"
26	70059876	2	LOCK, capscrew

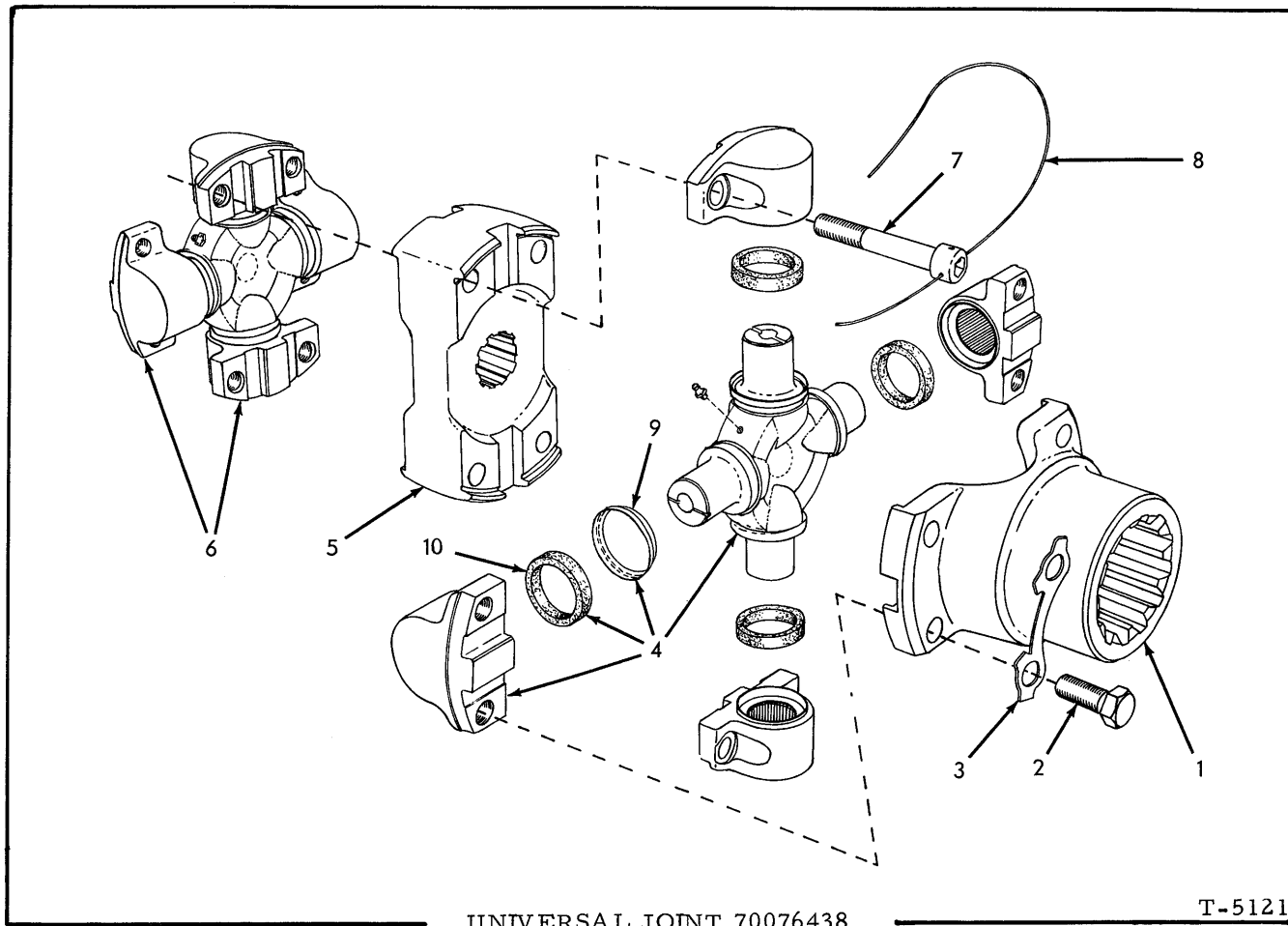


CLUTCH ASSEMBLY 70620504

T-38110

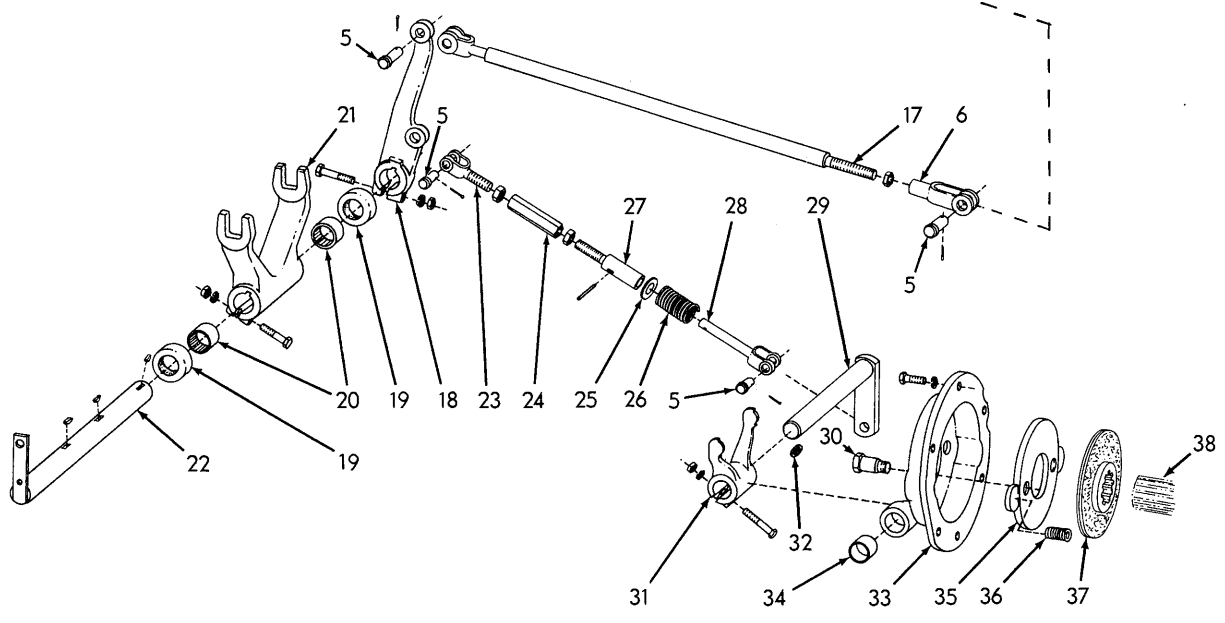
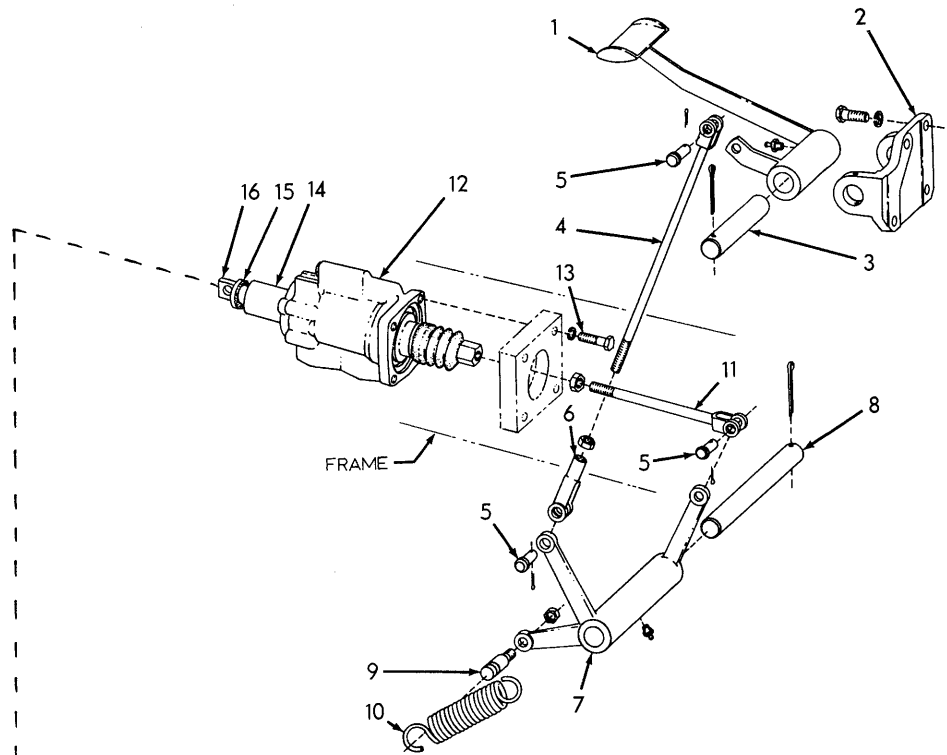
USAGE: See page 105

ITEM	PART NO.	QTY.	DESCRIPTION
1	70637663	1	HUB, driving, clutch shaft
2	70623465	3	SCREW, disc retaining (Used prior to grader #1806)
	70910243	6	WASHER, plain, SAE std., 3/16"
	70663464	3	RIVET, disc retaining (Effective with grader #1806)
3	70623466	3	LOCKNUT, disc retaining screw (Used prior to grader #1806)
	70645706	3	WASHER, disc retaining rivet (Effective with grader #1806)
4	70637664	3	DISC, friction, inner
5	70642453	2	DISC, friction, outer
6	70637665	1	PLATE, pressure
7	70633213	12	SPRING, pressure plate
8	70637667	3	LEVER, release
9	70637668	3	SCREW, adjusting
10	70637672	3	PIN, release lever
	70911115	3	WASHER, plain, SAE std., 3/8"
	70900801	3	PIN, cotter, 3/32" x 3/4"
11	70637669	3	BLOCK, lever pivot
	70910543	3	LOCKWASHER, ext-tooth, 5/8"
	70911049	3	NUT, jam, 5/8"NF
12	70637670	3	PIN, lever pivot block
13	70637671	3	SPRING, release lever
14	70637673	1	PLATE, back



USAGE: See page 105

ITEM	PART NO.	QTY.	DESCRIPTION
1	70076437	1	YOKE, coupling
2	70035167	4	CAPSCREW, 3/8"NF x 7/8"
3	70059876	2	LOCK, capscrew
4	70086752	1	SPIDER ASSEMBLY, transmission side (Includes bearings, items 9 and 10 and FITTING indented below) (Serviced only as a unit)
	70912808	1	FITTING, lubricating, straight, 1/4"NF
5	70076459	1	PLATE, coupling
6	70086747	1	SPIDER ASSEMBLY, clutch side (Includes bearings, items 9 and 10 and FITTING indented below) (Serviced only as a unit)
	70912808	1	FITTING, lubricating, straight, 1/4"NF
7	70076460	4	CAPSCREW, coupling
8	70023756	1	WIRE, locking, 1/16" x 26"
9	70059873	8	SHIELD, dust
10	70076461	8	WASHER, sealing (cork)



T-71399

ENGINE CLUTCH CONTROL

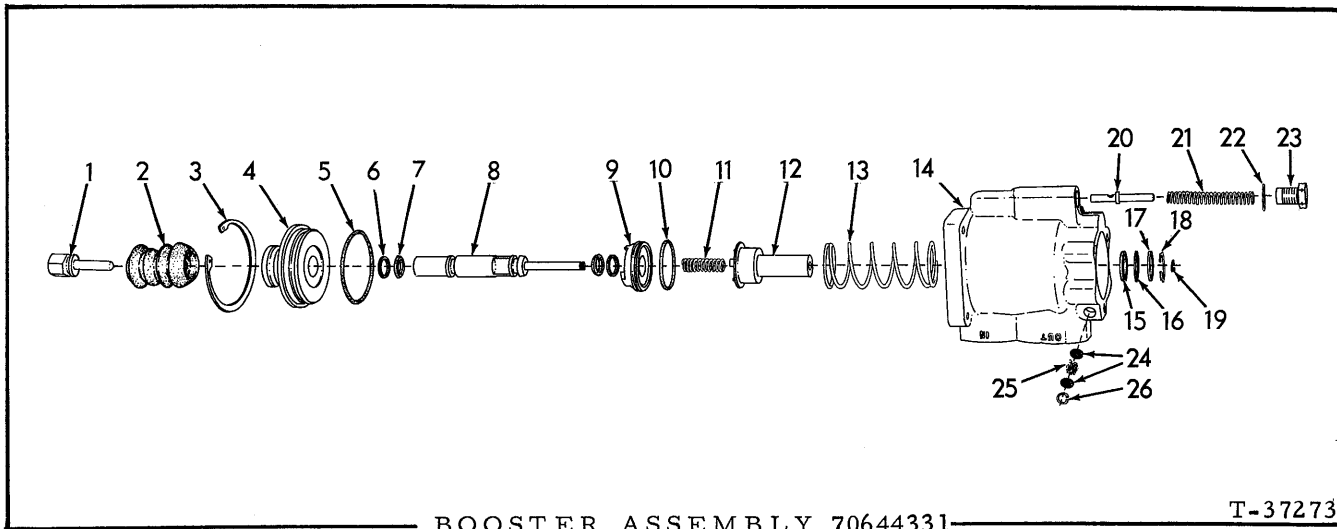
ENGINE CLUTCH CONTROL

ITEM	PART NO.	QTY.	DESCRIPTION
1	70622871 70914465	1 1	PEDAL, clutch operating FITTING, lubricating, straight, 1/8"NPT
2	70622869 70916311 70904208	1 4 4	BRACKET, pedal supporting CAPSCREW, 1/2"NC x 1-1/4" LOCKWASHER, 1/2"
3	70622868 70910024	1 1	SHAFT, pedal PIN, cotter, 3/16" x 2-1/2"
4	70622857 70911043	1 1	ROD, operating (vertical) NUT, 1/2"NF
5	70049993 70900805	7 7	PIN, control rod yokes PIN, cotter, 1/8" x 3/4"
6	70068389	2	YOKE, control rods
7	70622867 70914465	1 1	BELLCRANK FITTING, lubricating, straight, 1/8"NPT
8	70622872 70910024	1 1	SHAFT, bellcrank PIN, cotter, 3/16" x 2-1/2"
9	70067902 70913830	1	BOLT, eye, pedal retracting spring (Graders prior to #1021)
		2	NUT, jam, 1/2"NF
10	70648303 70911028	1	PIN, pedal retracting spring (Graders #1021 and up)
		1	NUT, jam, 1/2"NC
11	70052357 70648304	1	SPRING, pedal retracting (Graders prior to #1021)
		1	SPRING, pedal retracting (Graders #1021 and up)
12	70622858 70911043	1	ROD, actuating, power booster
		1	NUT, 1/2"NF
13	70644331 70916197 70904207	1	BOOSTER ASSEMBLY, clutch operating (See page 111 for parts)
		4	CAPSCREW, 7/16"NC x 1-3/4"
14	70904207	4	LOCKWASHER, 7/16"
		4	LOCKWASHER, 7/16"
14	70622864 70919224 70904206	1	RETAINER, power booster shaft
		3	CAPSCREW, 3/8"NC x 1-1/8"
		3	LOCKWASHER, 3/8"
15	70052641	1	SEAL, retainer
16	70622865	1	SHAFT, power booster
17	70622859 70911043	1	ROD, operating (horizontal)
		1	NUT, 1/2"NF
18	70622861 70905126 70916385 70904206 70911041	1	LEVER, clutch operating
		1	KEY, #15 woodruff, 1/4" x 1"
		1	CAPSCREW, 3/8"NF x 2"
		1	LOCKWASHER, 3/8"
		1	NUT, 3/8"NF
19	70603002	2	SEAL, oil, clutch fork shaft
20	70074975	2	BEARING, needle, clutch fork shaft

(Continued)

ENGINE CLUTCH CONTROL (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
21	70630813	1	FORK, clutch release
	70905126	2	KEY, #15 woodruff, 1/4" x 1"
	70916191	2	CAPSCREW, 7/16"NC x 1-1/2"
	70904207	2	LOCKWASHER, 7/16"
22	70644138	1	SHAFT, clutch fork
23	70649409	1	YOKE, brake linkage, rear (If for graders prior to #1259 also order 1 NUT 70053005)
	70053005	1	NUT, 1/2"NF left hand thread
24	70622104	1	NUT, adjusting, brake linkage
25	70622106	1	WASHER, brake linkage spring
26	70622102	1	SPRING, brake linkage
27	70622108	1	TUBE, brake linkage (Used prior to grader #1259)
	70649410	1	TUBE, brake linkage (Effective with grader #1259)
	70913177	1	NUT, jam, 1/2"NF
28	70622109	1	YOKE, brake linkage, front
	70915797	1	PIN, spring, 3/16" x 1-1/4"
29	70637832	1	LEVER, clutch brake
30	70075681	2	STUD, pressure plate
31	70074978	1	YOKE, brake operating
	70916385	1	CAPSCREW, 3/8"NF x 2"
	70904206	1	LOCKWASHER, 3/8"
	70911041	1	NUT, 3/8"NF
32	70075679	1	KEY, brake operating yoke
33	70075715	1	COVER ASSEMBLY, brake (Includes item 34)
	70916271	6	CAPSCREW, 3/8"NC x 1"
	70904206	6	LOCKWASHER, 3/8"
34	70034514	2	BUSHING, brake cover
35	70074956	1	PLATE, pressure, clutch brake
36	70040475	2	SPRING, brake pressure plate
37	70644073	1	HUB ASSEMBLY, clutch brake (Facings are cemented and are not serviced separately)
38	-----	-	See TRANSMISSION TOP SHAFT



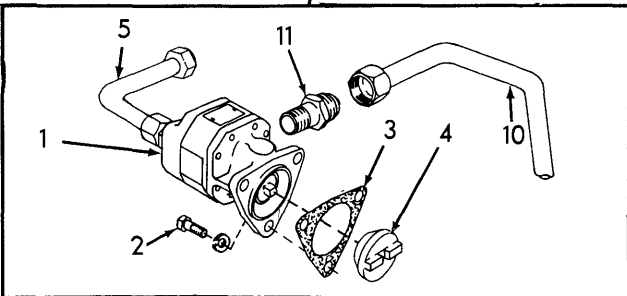
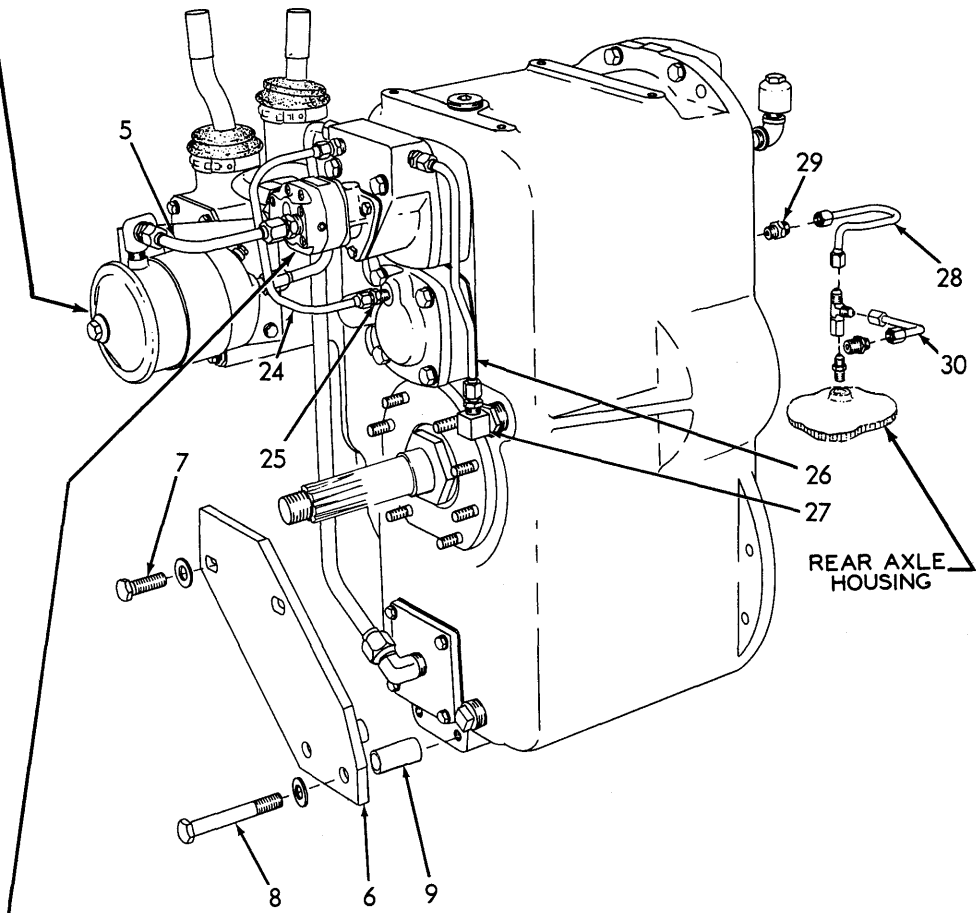
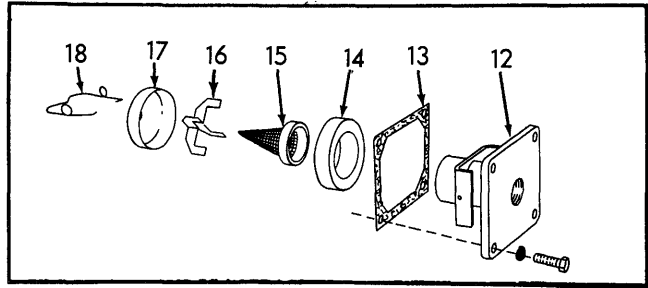
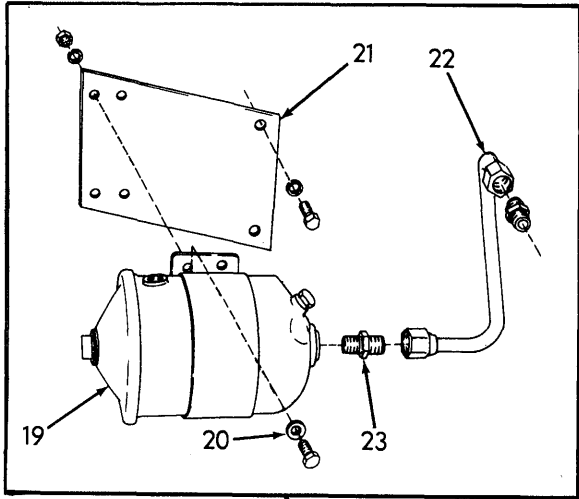
BOOSTER ASSEMBLY 70644331

T-37273

USAGE: See page 109

ITEM	PART NO.	QTY.	DESCRIPTION
1	70639033	1	ROD, push (Graders prior to #449)
	70643215	1	ROD, push (Graders #449 and up)
2	70630661	1	<input type="checkbox"/> BOOT, push rod
3	70630666	1	RING, snap, end cover retaining
4	70630665	1	COVER, end
5	70630667	1	<input type="checkbox"/> O-RING, end cover
6	70630663	2	<input type="checkbox"/> WASHER, back-up, spool seal
7	70630664	2	<input type="checkbox"/> SEAL, oil, operating spool
8	70643214	1	SPOOL, operating (If for first replacement on graders prior to #449 also order 1 ROD 70643215)
9	70644383	1	PISTON, booster
10	70630669	1	<input type="checkbox"/> O-RING, booster piston
11	70638976	1	SPRING, spool return
12	70630673	1	SHAFT, actuating
13	70630671	1	SPRING, actuating shaft
14	-----	1	BODY (Not serviced separately)
15	70630678	1	<input type="checkbox"/> SEAL, oil, actuating shaft
16	70630679	1	<input type="checkbox"/> WASHER, back-up, actuating shaft oil seal
17	70630680	1	<input type="checkbox"/> SPACER, shaft oil seal
18	70630681	1	<input type="checkbox"/> RING, snap, shaft seal retaining
19	70630682	1	<input type="checkbox"/> RING, snap, actuating shaft
20	70630674	1	VALVE, relief
21	70630675	1	SPRING, relief valve
22	70630676	1	<input type="checkbox"/> WASHER, relief valve retainer
23	70630677	1	RETAINER, relief valve
24	-----	2	SCREEN, vent
25	-----	1	<input type="checkbox"/> FILLER, vent
26	-----	1	<input type="checkbox"/> RING, snap, retaining
27	70643021	1	REPAIR KIT (Consists of items marked <input type="checkbox"/> above) <input type="checkbox"/> Indicates components of item 27

} Not serviced separately



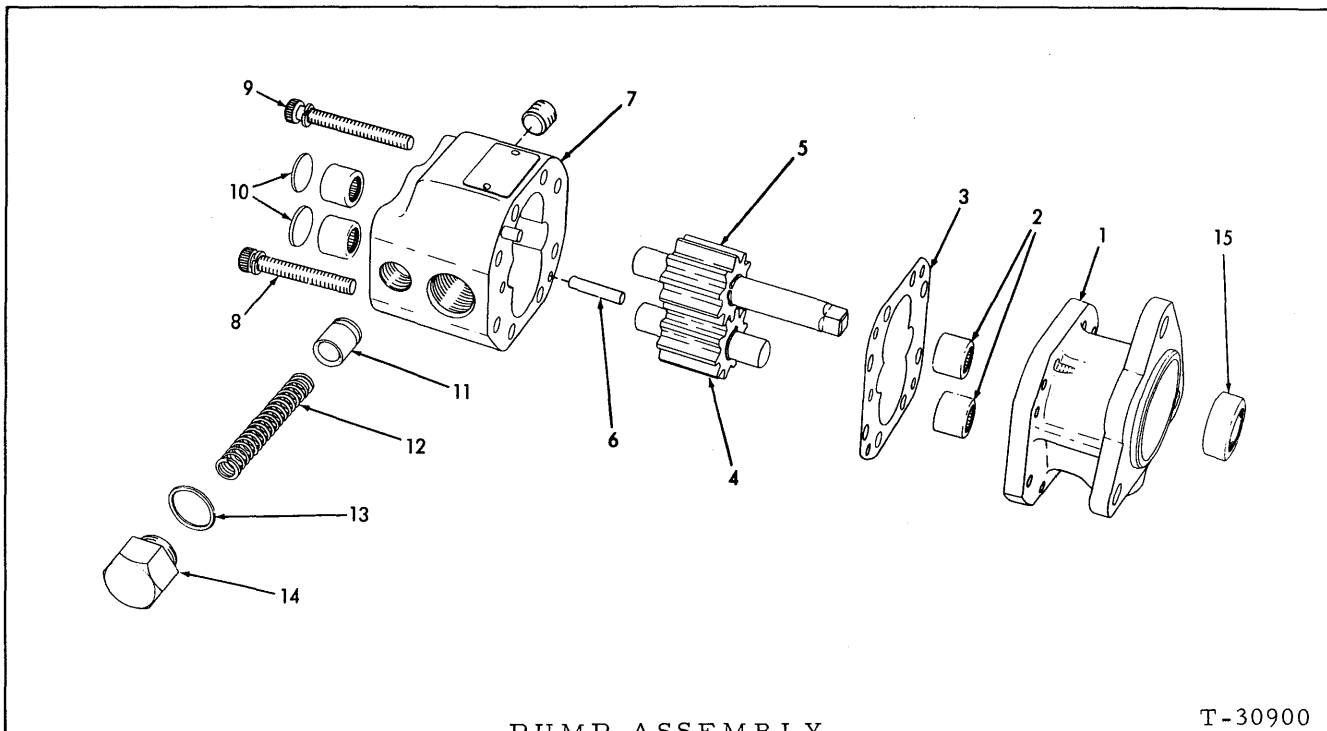
TRANSMISSION OILING SYSTEM

T-37253

TRANSMISSION OILING SYSTEM

ITEM	PART NO.	QTY.	DESCRIPTION	
1	70623316	1	PUMP ASSY. (Graders prior to unit #05757)	} See page 114
	70676308	1	PUMP ASSY. (Graders unit #05757 and up)	
2	70054130	3	CAPSCREW, 5/16"NC x 7/8"	
	70904205	3	LOCKWASHER, 5/16"	
3	74376605	1	GASKET, oil pump	
4	70099005	1	COUPLING, pump drive	
5	70634328	1	TUBE ASSY., pump to filter (Includes nuts)	
	70919128	1	CONNECTOR, flare type, 1/2" tube, 1/2"NPT male	
	70919063	1	CONNECTOR, flare type, 1/2" tube, 3/8"NPT male	
	70911310	1	ELBOW, side outlet, 3/8"NPT	
	70901489	1	NIPPLE, pipe, 3/8"NPT x 1"	
6	70633522	1	PLATE, guard, suction tube	
7	70071113	2	CAPSCREW, 5/8"NC x 2"	
8	70633529	2	CAPSCREW, 5/8"NC x 4-1/2"	
	70911100	4	WASHER, plain, SAE std., 5/8"	
9	70633523	2	SPACER, guard plate	
10	70629619	1	TUBE ASSY., suction (Includes nuts)	
	70919269	1	ELBOW, flare type, 3/4" tube, 3/4"NPT male	
11	70623310	1	CONNECTOR, suction tube	
12	70623722	1	COVER, oil strainer	
	70903631	4	CAPSCREW, 3/8"NC x 1-1/4"	
	70904206	4	LOCKWASHER, 3/8"	
13	70623718	1	GASKET, oil strainer cover	
14	73013850	1	MAGNET, suction line	
15	70623723	1	STRAINER, suction line	
16	73013847	1	SUPPORT, baffle	
17	73013852	1	BAFFLE, oil	
18	73013848	1	BAIL, oil baffle	
19	70623609	1	FILTER ASSY., oil (See page 115)fo	
	70927338	4	CAPSCREW, 1/4"NC x 7/8"	
20	70092635	4	WASHER, plain	
	70904204	4	LOCKWASHER, 1/4"	
	70911024	4	NUT, 1/4"NC	
21	70629679	1	PLATE, filter mounting	
	70920473	2	CAPSCREW, Nylok, 3/8"NC x 3/4"	
	70904206	2	LOCKWASHER, 3/8"	
22	70629621	1	TUBE ASSY., filter to top shaft (Includes nuts)	
	70919063	1	CONNECTOR, flare type, 1/2" tube, 3/8"NPT male	
23	70624826	1	CONNECTOR, flare type, 1/2" tube, 3/8"NPT male(restricted)	
24	70629622	1	TUBE ASSY., top shaft to intermediate shaft (Includes nuts)	
	70919172	1	CONNECTOR, flare type, 3/8" tube, 3/8"NPT male	
25	70629665	1	CONNECTOR, flare type, restricted, 3/8"tube, 1/4"NPT male	
26	70629620	1	TUBE ASSY., top shaft to reverse shaft (Includes nuts)	
	70919172	2	CONNECTOR, flare type, 3/8" tube, 3/8"NPT male	
27	70629655	1	CONNECTOR, reverse shaft oil tube	
28	70629656	1	TUBE ASSY., tee to intermediate shaft (Includes nuts)	
29	70629665	1	CONNECTOR, flare type, restricted, 3/8"tube, 1/4"NPT male	
30	70629618	1	TUBE ASSY., reverse shaft (rear)	
	70921297	1	TEE, flare type, swivel nut, 3/8" tube	
	70919062	2	CONNECTOR, flare type, 3/8" tube, 1/4"NPT male	

(Revised May 1981)



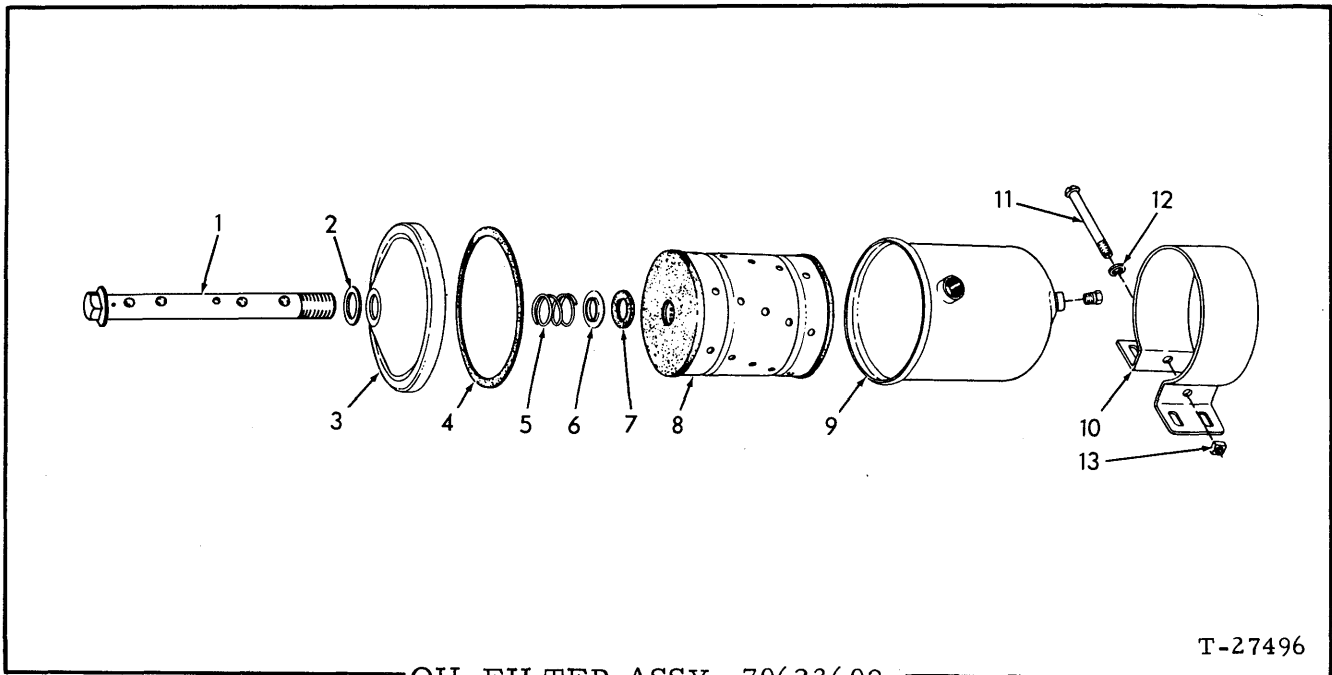
PUMP ASSEMBLY

T-30900

USAGE: See page 113

* PUMP ASSEMBLY 70623316
 ** PUMP ASSEMBLY 70676308

ITEM	PART NO.	QTY.		DESCRIPTION
		*	**	
1	-----	1	1	STATOR (Not serviced separately)
2	70077241	4	4	BEARING, needle
3	70621363	1	1	GASKET, pump housing
4	{ 70098394	1	-	SHAFT ASSY., idler } Each includes gear. Serviced only as a unit
	{ 70682503	-	1	
5	{ 70623845	1	-	SHAFT ASSY., driving } Each includes gear. Serviced only as a unit.
	{ 70682504	-	1	
6	74048000	2	2	PIN, dowel, pump housing
7	-----	1	1	HOUSING, gear (Not serviced separately)
	70910231	1	-	PLUG, pipe, hex-socket, 1/8"NPT
8	{ 70622083	4	-	SCREW ASSY., short (Includes lockwasher)
	{ 70923448	-	4	
9	{ 70623834	4	-	SCREW ASSY., long (Includes lockwasher)
	{ 70922424	-	4	
	{ 70910285	-	8	
10	70092107	2	-	PLUG, expansion, 11/16" diam.
11	70623835	1	1	PLUNGER, pressure relief valve
12	70623838	1	1	SPRING, pressure relief valve
13	70623837	1	1	GASKET, pressure relief valve cap
14	70623836	1	1	CAP, pressure relief valve
15	74047783	1	1	SEAL, oil

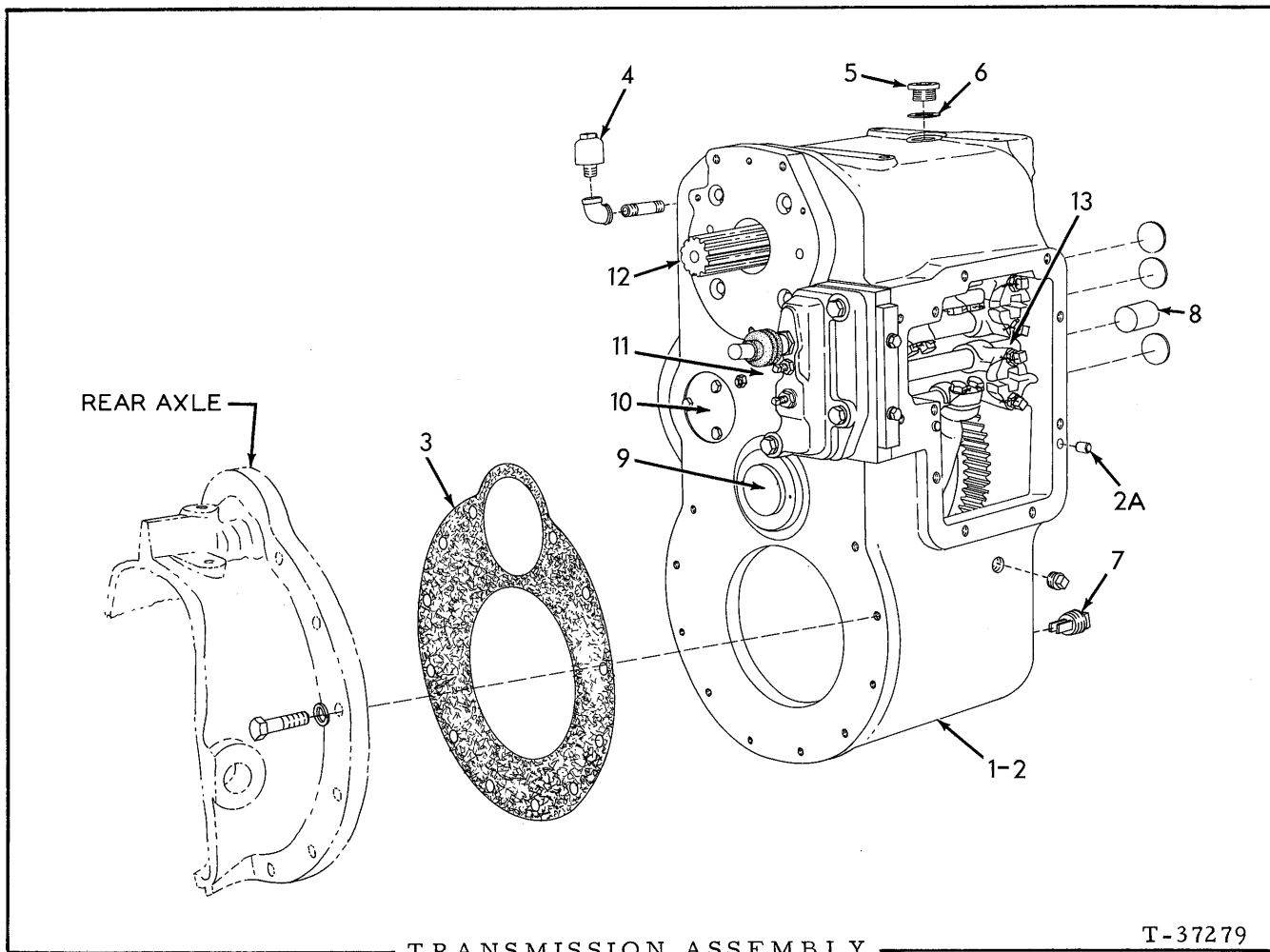


OIL FILTER ASSY. 70623609

T-27496

USAGE: See page 113

ITEM	PART NO.	QTY.	DESCRIPTION
1	70623608	1	BOLT ASSEMBLY (Includes check valve. Serviced only as a unit)
2	74049469	1	GASKET, cover bolt
3	74049471	1	COVER, filter body
4	74049470	1	GASKET, filter body cover
5	74048793	1	SPRING, cartridge retaining
6	74048794	1	WASHER, cartridge gasket
7	74041209	1	GASKET, cartridge
8	74372517	1	CARTRIDGE ASSEMBLY (Includes items 2, 4 and 7)
9	74049472	1	BODY, oil filter
	70917426	1	PLUG, pipe, hex-hd., 1/8"NPT
10	74506165	1	CLAMP, mounting
11	74371974	1	BOLT, mounting clamp
12	74371973	1	LOCKWASHER
13	74371795	1	NUT



TRANSMISSION ASSEMBLY

T-37279

* Graders prior to serial No. 1704
 ** Graders serial No. 1704 and up

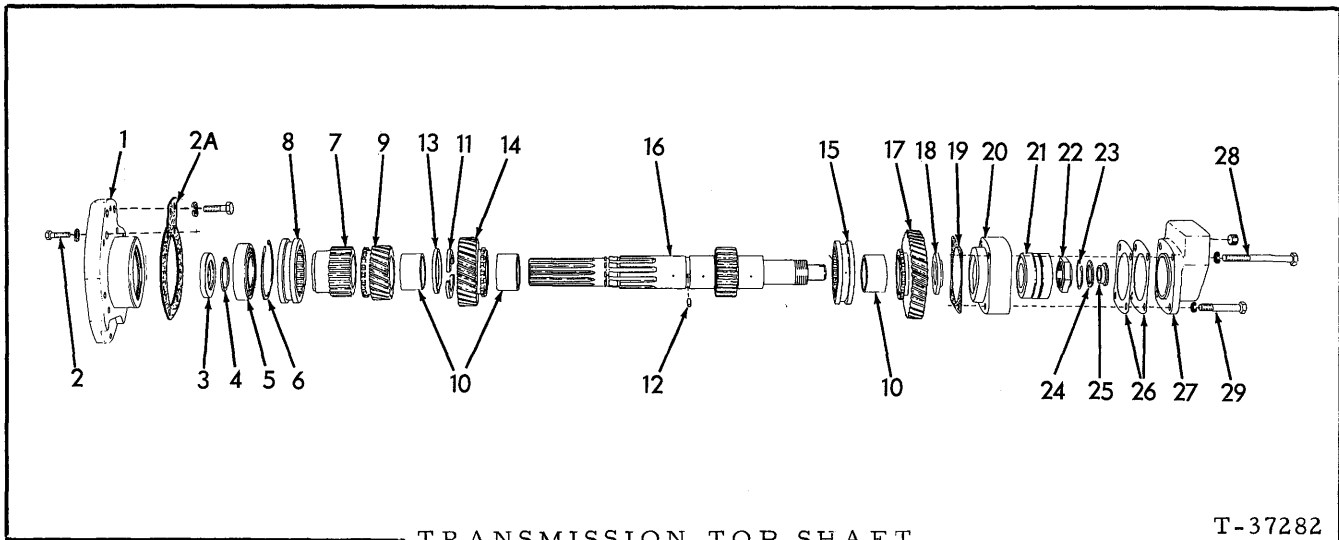
ITEM	PART NO.	QTY.	DESCRIPTION
		* **	
1	-----	1 -	TRANSMISSION ASSY. (Order 1 each TRANSMISSION ASSY. 70658300 , ARM 70652898 , SHAFT 70652949 , GASKET 70652896 , KEY 70652902 , ARM 70652908 , GASKET 70652901 , BLOCK 70652903 and 4 each CAPSCREW 70044429 , WASHER 70911115)
	70658300	- 1	TRANSMISSION ASSY. (Graders prior to unit #05223)
	70669610	- 1	TRANSMISSION ASSY (Graders unit #05223 and up)
	70921556	12 12	CAPSCREW, 1/2"NC x 2"
	70904208	12 12	LOCKWASHER, 1/2"

NOTE: Each assembly listed above includes GEARS, SHAFTS and SHIFTING FORKS

(Continued)

TRANSMISSION ASSEMBLY (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
		* **	
2	70658449	1 -	HOUSING, transmission
	70652947	- 1	HOUSING ASSY., transmission (Includes item 2A)(Graders prior to unit #05223)
	70669609	- 1	HOUSING ASSY., transmission (Includes item 2A)(Graders unit #05223 and up)
	70910014	3 3	PLUG, expansion, 1-1/2" diam.
	70912725	1 1	PLUG, pipe, 1/2"NPT (Oil level)(Graders prior to unit #05223)
2A	70065823	- 2	PIN, dowel, gear shift housing
3	70621787	1 1	GASKET, transmission to rear axle
4	70050748	1 1	BREATHER
	70901678	1 1	ELBOW, pipe, 90°, 3/8"NPT
	70901492	1 1	NIPPLE, pipe, 3/8"NPT x 2-1/2"
5	70050594	1 1	PLUG, oil filler
6	70050595	1 1	GASKET, oil filler plug
			} Graders prior to unit #05223
7	70634668	1 1	PLUG, oil drain (magnetic)
8	70070939	1 1	COVER, shifter shaft
9	-----	- -	See BOTTOM SHAFT
10	-----	- -	See REVERSE GEAR SHAFT
11	-----	- -	See INTERMEDIATE SHAFT
12	-----	- -	See TOP SHAFT
13	-----	- -	See GEAR SHIFT FORKS AND LOCKS



TRANSMISSION TOP SHAFT

T-37282

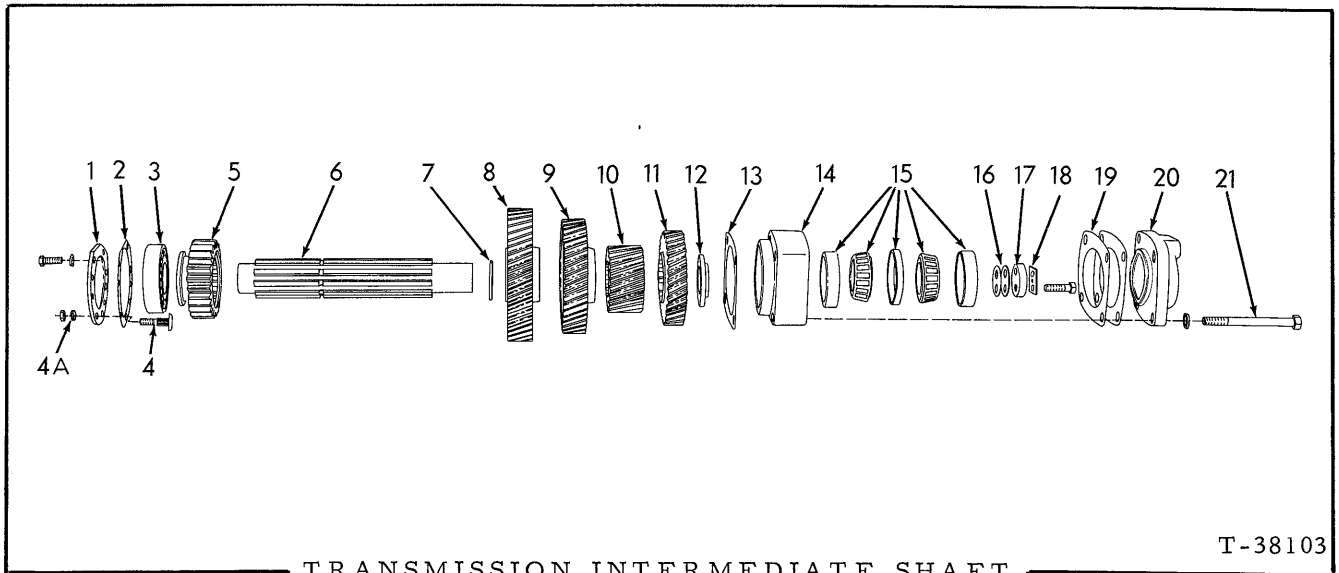
ITEM	PART NO.	QTY.	DESCRIPTION
1	70099921	1	ADAPTER, transmission housing
	70916313	2	CAPSCREW, 1/2"NC x 1-3/4"
	70904208	2	LOCKWASHER, 1/2"
2	70916272	4	CAPSCREW, 3/8"NC x 1-1/4"
	70904206	4	LOCKWASHER, 3/8"
2A	70624785	1	GASKET, adapter to transmission housing
3	70633630	1	SEAL, oil, rear bearing
4	70050292	1	RING, snap, top shaft
5	70091375	1	BEARING, roller, rear
6	70925999	1	RING, snap, bearing retaining
7	70099948	1	HUB, driving, 1st and 4th gear shifting collar
8	70650054	1	COLLAR, shifting, 1st and 4th speeds
9	70650055	1	GEAR ASSEMBLY, 1st and 4th speeds (23 teeth) (Includes item 10)
10	70099946	3	BUSHING, gear
11	70099935	1	WASHER, thrust (2 halves)
12	70624027	1	PIN, thrust washer drive
13	70099929	1	RING, retaining, thrust washer
14	70649648	1	GEAR ASSEMBLY, 2nd and 5th speeds (29 teeth) (Includes item 10)
15	70649974	1	COLLAR, shifting, 2nd,3rd, 5th and 6th speeds
16	70642340	1	SHAFT, top
17	70649973	1	GEAR ASSEMBLY, 3rd and 6th speeds (35 teeth) (Includes item 10)
18	70629235	1	WASHER, thrust

(Continued)

(Revised May 1978)

TRANSMISSION TOP SHAFT (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
19	70629227	1	GASKET, front bearing carrier
20	70649489	1	CARRIER, front bearing
21	70629236	1	BEARING, roller, front (Serviced only as a unit)
22	70629230	1	NUT, retaining
23	70621446	1	RING, snap
24	70621332	1	RING, oil sealing, outer
25	70621333	1	RING, oil sealing, inner
26	70629228	3	SHIM, front bearing retainer (.003" thick. Use as req'd)
	70629226	7	SHIM, front bearing retainer (.005" thick. Use as req'd)
27	70629234	1	RETAINER, front bearing
	70901666	1	PLUG, pipe, sq.-socket, 1"NPT
28	70639788	2	CAPSCREW, Nylok, 1/2"NC x 5"
29	70639789	2	CAPSCREW, Nylok, 1/2"NC x 3"
	70904208	4	LOCKWASHER, 1/2"



TRANSMISSION INTERMEDIATE SHAFT

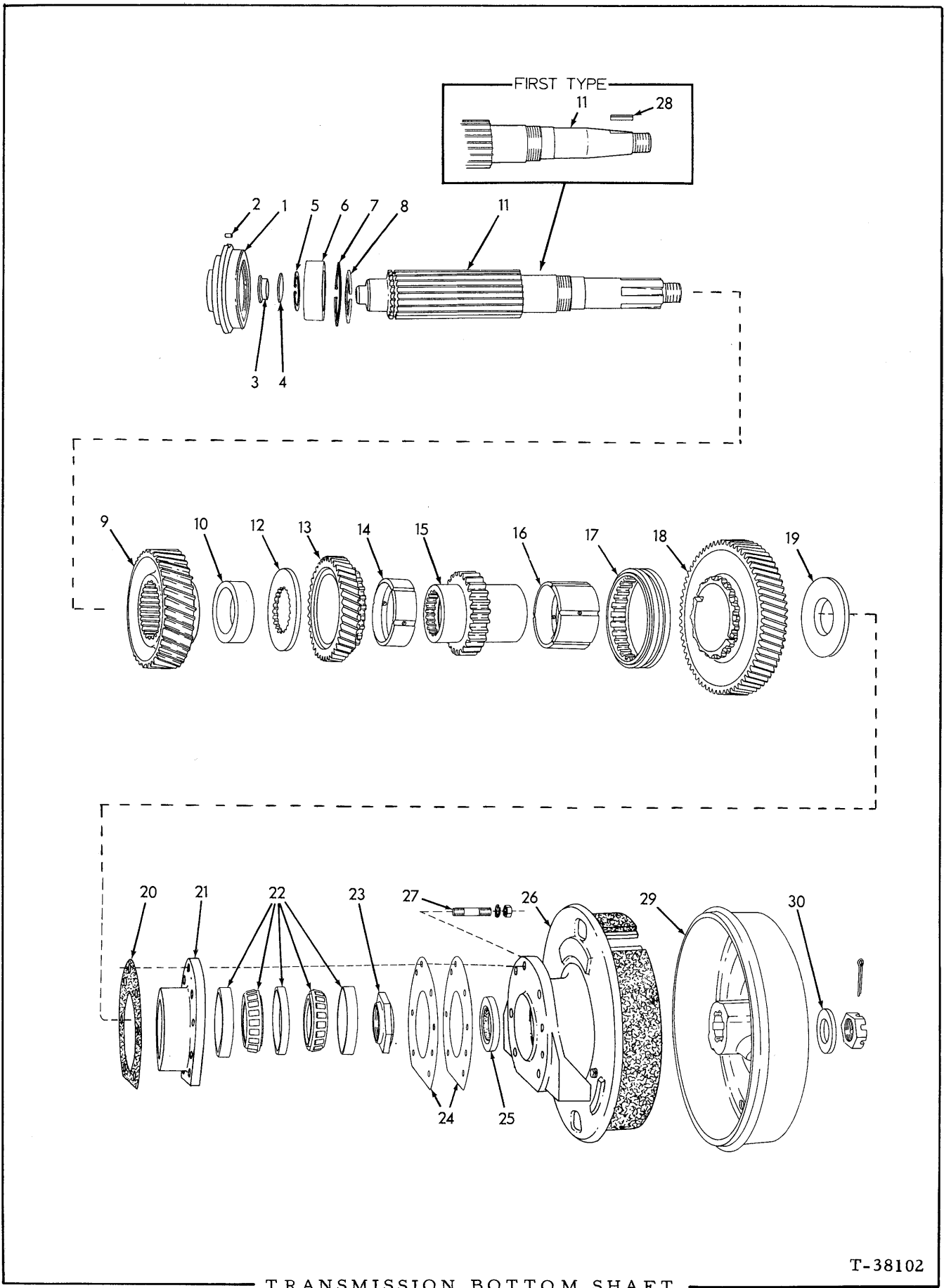
T-38103

ITEM	PART NO.	QTY.	DESCRIPTION
1	70629677	1	COVER, rear bearing
	70920539	2	CAPSCREW, Nylok, 3/8"NC x 1"
	70904206	2	LOCKWASHER, 3/8"
2	70604997	1	GASKET, rear bearing cover
3	70059095	1	BEARING, roller, rear
4	70059120	2	SCREW, retaining, rear bearing
4A	70625084	2	WASHER, sealing
	70911041	2	NUT, 3/8"NF
5	70050941	1	GEAR, shifting, reverse (25 teeth)
6	70629237	1	SHAFT, intermediate
7	70605003	1	RING, snap
8	70079718	1	GEAR (46 teeth)
9	70079719	1	GEAR (40 teeth)
10	70079720	1	GEAR (24 teeth)
11	70079721	1	GEAR (32 teeth)
12	70629235	1	WASHER, thrust
13	70629227	1	GASKET, front bearing carrier
14	70649490	1	CARRIER, front bearing
15	70629236	1	BEARING, roller, front (Serviced only as a unit)
16	70059788	6	SHIM, retaining washer (.005" thick. Use as req'd)
	70059789	4	SHIM, retaining washer (.028" thick. Use as req'd)

(Continued)

TRANSMISSION INTERMEDIATE SHAFT (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
17	70629229	1	WASHER, retaining, front bearing
	70916191	2	CAPSCREW, 7/16"NC x 1-1/2"
18	70099928	1	LOCK, capscrew
19	70629228	3	SHIM, front bearing retainer (.003" thick. Use as req'd)
	70629226	7	SHIM, front bearing retainer (.005" thick. Use as req'd)
20	70629233	1	RETAINER, front bearing
21	70639791	4	CAPSCREW, Nylok, 1/2"NC x 2-3/4"
	70904208	4	LOCKWASHER, 1/2"

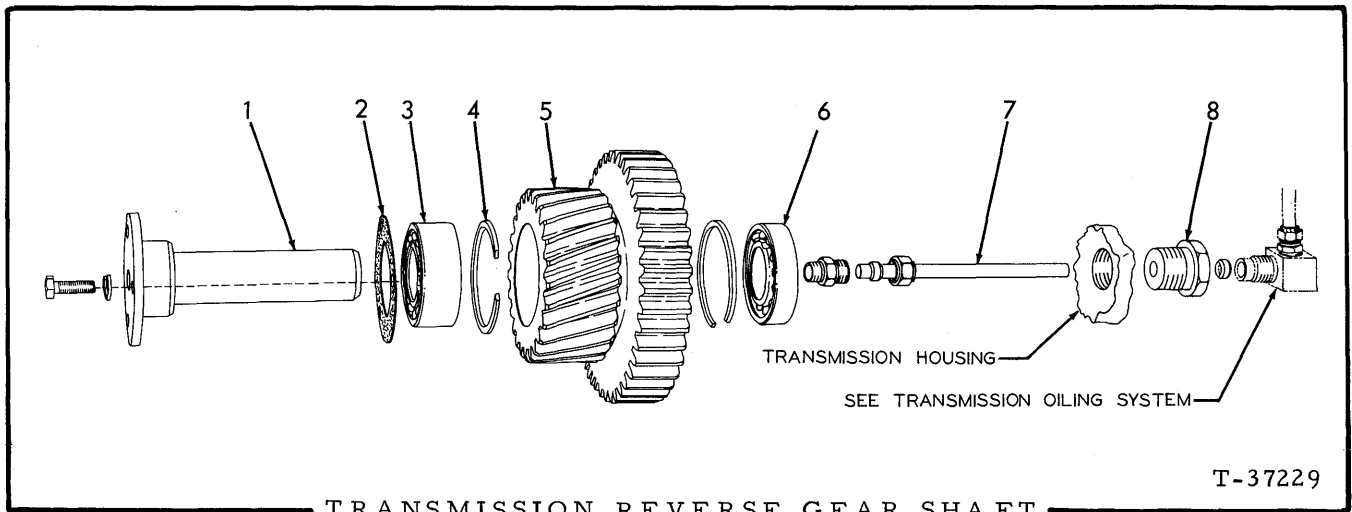


TRANSMISSION BOTTOM SHAFT

T-38102

TRANSMISSION BOTTOM SHAFT

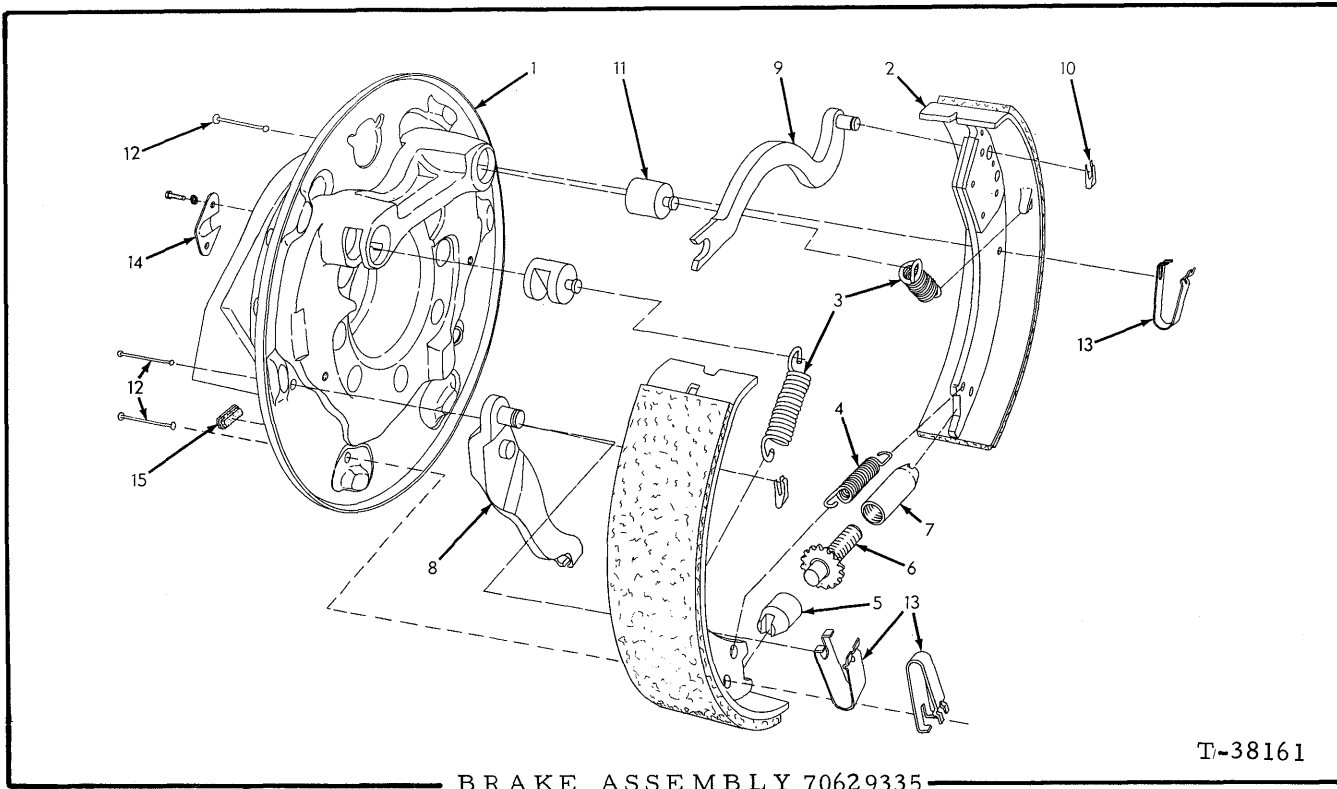
ITEM	PART NO.	QTY.	DESCRIPTION
1	70657270	1	CARRIER, rear bearing
2	70098309	1	PIN, locating, bearing carrier
3	70621333	1	RING, oil sealing, inner
4	70621332	1	RING, oil sealing, outer
5	70621446	1	RING, snap, outer sealing ring
6	70098311	1	BEARING, roller, rear
7	70621776	1	RING, snap, bearing retaining
8	70088735	1	RING, snap, bottom shaft
9	70079723	1	GEAR (37 teeth)
10	70098865	1	SPACER, reverse gear
11	70629256	1	SHAFT, bottom (Graders prior to #803)
	70647821	1	SHAFT, bottom (Graders #803 and up)
12	70069454	1	WASHER, gear retaining, rear
13	70649968	1	GEAR, high range speeds (41 teeth)
14	70623669	1	BUSHING, high range gear
15	70642342	1	HUB, range gears
16	70623882	1	BUSHING, low range gear
17	70649967	1	COLLAR, shifting
18	70649882	1	GEAR, low range speeds (66 teeth)
19	70098316	1	WASHER, gear retaining, front
20	70098321	1	GASKET, front bearing carrier
21	70631128	1	CARRIER, front bearing
22	70098317	1	BEARING, roller, front (Serviced only as a unit)
23	70078864	1	NUT, retaining
24	70098319	3	SHIM, bearing adjustment (.003" thick. Use as req'd)
	70098320	7	SHIM, bearing adjustment (.005" thick. Use as req'd)
25	70633630	1	SEAL, oil
26	70629335	1	BRAKE ASSEMBLY, parking (See page 125 for parts)
27	70629334	8	STUD
	70904208	8	LOCKWASHER, 1/2"
	70911043	8	NUT, 1/2"NF
28	70629317	1	KEY, brake drum (Graders prior to #803)
29	70647271	1	DRUM, parking brake (keywayed)(Graders prior to #803)
	70647822	1	DRUM, parking brake (splined)(Graders #803 and up)
	70913798	1	NUT, jam, slotted, 1-1/4"NF
	70904381	1	PIN, cotter, 3/16" x 2-1/4"
30	70054889	1	WASHER, drum retaining



TRANSMISSION REVERSE GEAR SHAFT

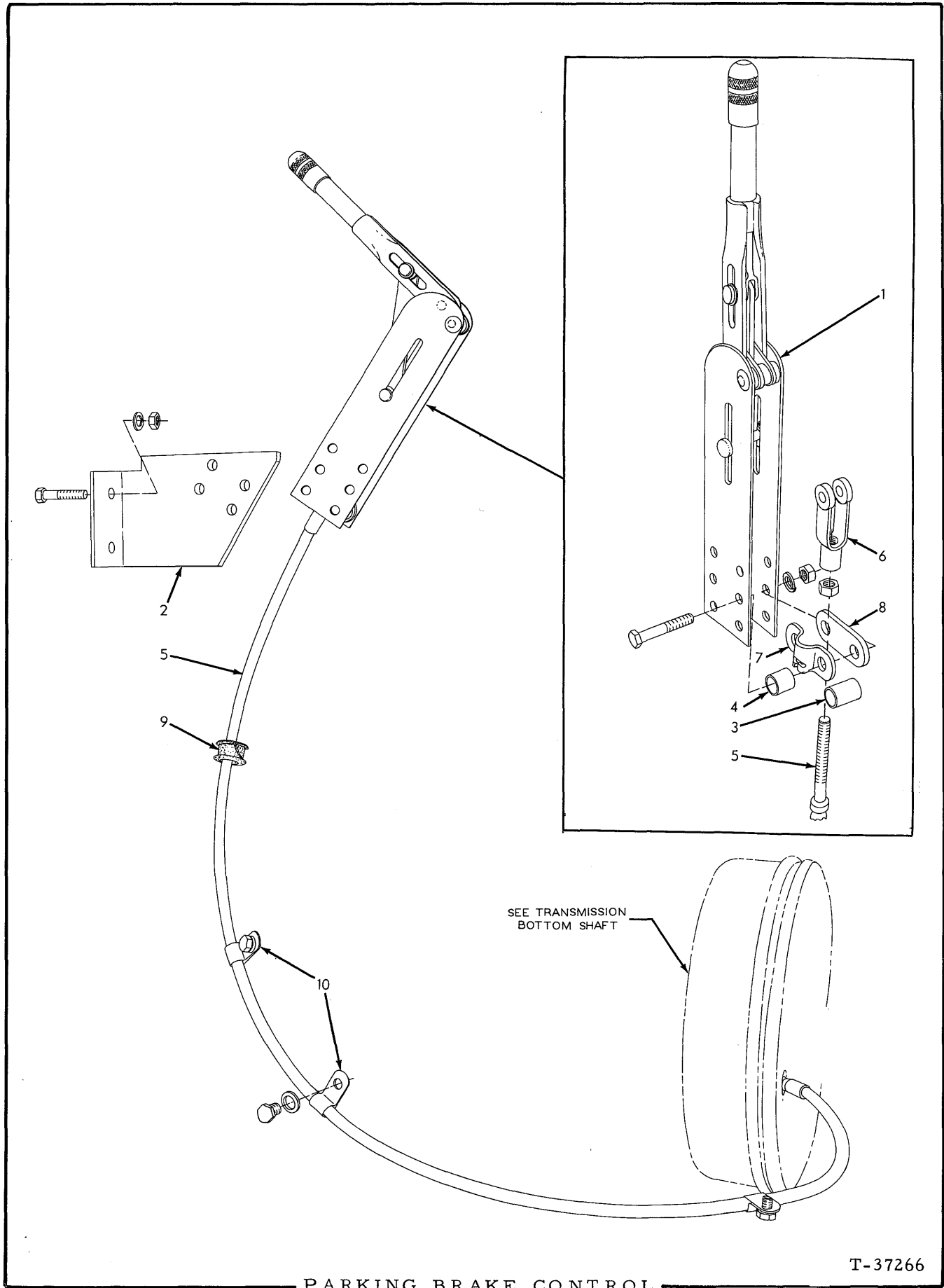
T-37229

ITEM	PART NUMBER	QTY.	DESCRIPTION
1	70649552	1	SHAFT, reverse gear
	70920539	3	CAPSCREW, Nylok, 3/8"NC x 1"
	70904206	3	LOCKWASHER, 3/8"
2	70605905	1	GASKET, reverse gear shaft
3	70058967	1	BEARING, ball, reverse gear, rear
4	70605895	2	RING, snap, reverse gear
5	70079722	1	GEAR, reverse (25 and 40 teeth)
6	70058974	1	BEARING, ball, reverse gear, front
7	70647322	1	TUBE, oil
	70915368	1	CONNECTOR, Sealastic, 3/8" tube, 1/4"NPT male
	70915367	2	RING, Sealastic, 3/8" tube (Includes ferrule)
	70918325	1	NUT, Sealastic, 3/8" tube
8	70629654	1	PLUG, connecting, oil tube



USAGE: See page 123

ITEM	PART NO.	QTY.	DESCRIPTION
1	-----	1	PLATE, back (Not serviced separately)
2	70639049	2	SHOE ASSEMBLY (Includes bonded lining)
3	70639056	2	SPRING, shoe retracting, upper
4	70639057	1	SPRING, shoe retracting, lower
5	70639041	1	SOCKET, shoe adjustment screw
6	70639042	1	SCREW, shoe adjustment
7	70639043	1	NUT, shoe adjustment screw
8	70639047	1	LEVER ASSEMBLY, actuating (Includes pins)
9	70639045	1	LINK ASSEMBLY, shoe (Includes pin)
10	70639048	2	WASHER, spring
11	70639055	2	PIN, anchor
12	70639053	3	PIN, shoe retaining
13	70639052	3	CLIP, spring, shoe retaining pin
14	70639051	1	BRACKET, cable retaining
	70914629	2	SCREW, thread-cutting, #14 x 1/2"
	70904204	2	LOCKWASHER, 1/4"
15	70639054	1	PLUG, adjustment screw hole

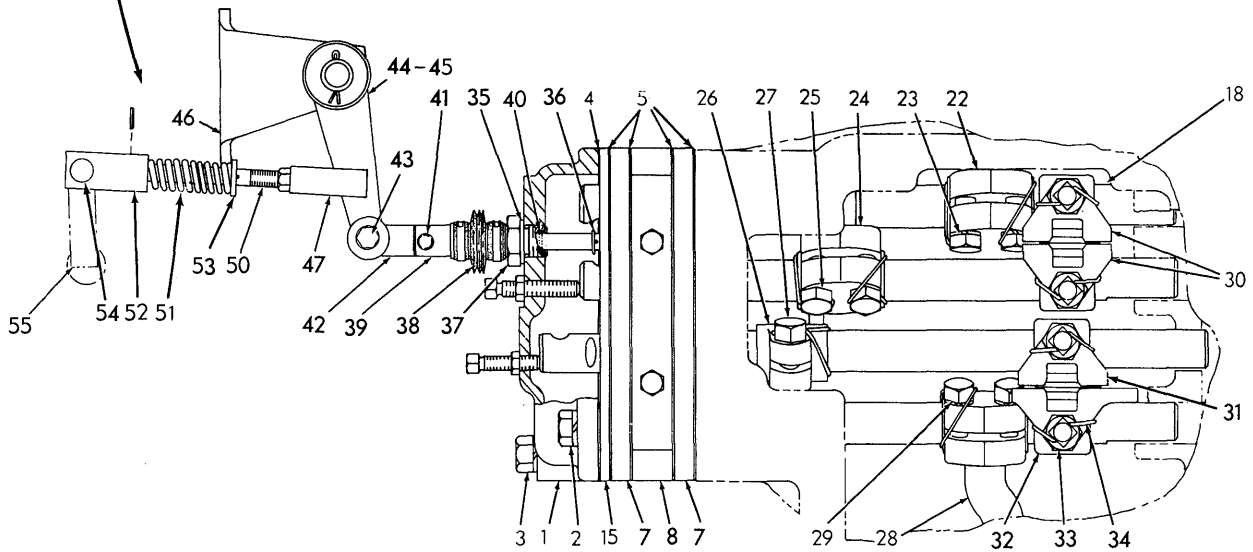
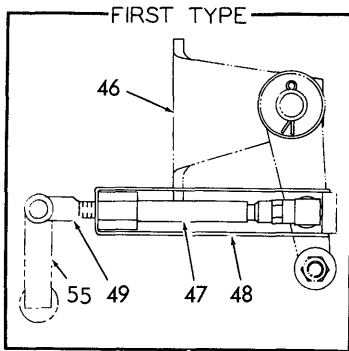
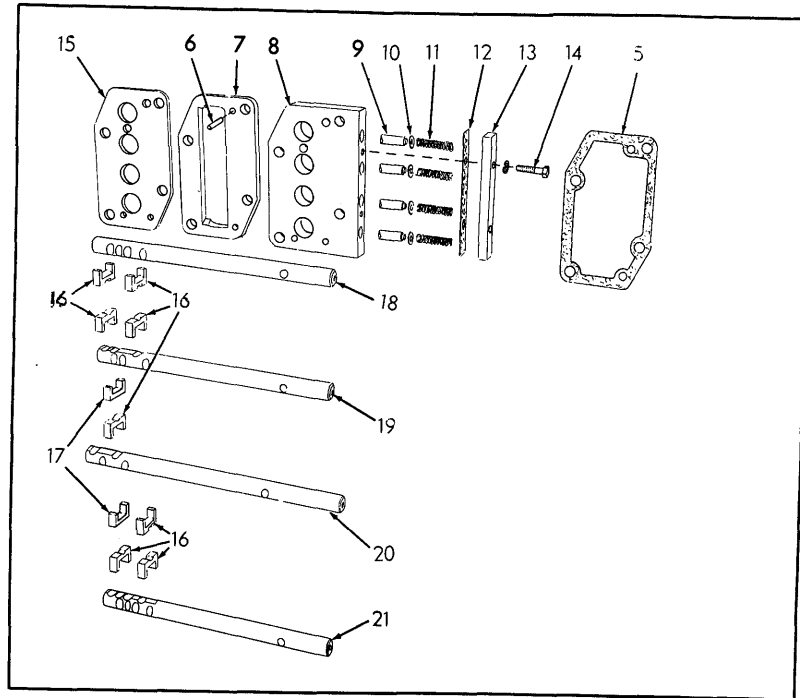


PARKING BRAKE CONTROL

T-37266

PARKING BRAKE CONTROL

ITEM	PART NO.	QTY.	DESCRIPTION
1	70083850	1	LEVER ASSEMBLY, operating
	70903774	4	CAPSCREW, 5/16"NC x 2"
	70904205	4	LOCKWASHER, 5/16"
	70911025	4	NUT, 5/16"NC
2	70648458	1	BRACKET, lever support
	70903632	2	CAPSCREW, 3/8"NC x 1-1/2"
	70904206	2	LOCKWASHER, 3/8"
	70911026	2	NUT, 3/8"NC
3	70083847	2	SPACER, operating lever (wide)
4	70083849	2	SPACER, operating lever (narrow)
5	70641549	1	CABLE ASSEMBLY, brake (Serviced only as a unit)
	70911048	1	NUT, jam, 3/8"NF
6	70621415	1	YOKE, adjusting
7	70083848	1	CLAMP, cable
8	70083851	1	SPACER, cable clamp
9	70632988	1	GROMMET, cable protecting
10	70091046	3	CLIP, cable supporting
	70903627	3	CAPSCREW, 3/8"NC x 1/2"
	70911115	3	WASHER, plain, SAE std., 3/8"



GEAR SHIFT FORKS AND LOCKS

T-38112

GEAR SHIFT FORKS AND LOCKS

ITEM	PART NO.	QTY.	DESCRIPTION
1	70622481	1	COVER, shifting shafts
	70902208	1	SETSCREW, sq-hd., oval point, 3/8"NC x 2"
	70902206	1	SETSCREW, sq-hd., oval point, 3/8"NC x 1-1/4"
	70911034	2	NUT, jam, 3/8"NC
2	70916319	2	CAPSCREW, 1/2"NC x 3-1/2"
3	70639792	2	CAPSCREW, Nylok, 1/2"NC x 4-1/2"
	70904208	4	LOCKWASHER, 1/2"
4	70622482	1	GASKET, cover
5	70622476	4	GASKET, shaft locking plates
6	70633135	2	PIN, dowel, shaft locking plates (2-3/16" long)(Graders prior to #1040)
	70647703	2	PIN, dowel, shaft locking plates (2-3/4" long)(Graders #1040 and up)
7	70642676	2	PLATE, shaft locking
8	70642677	1	PLATE, shifting shaft plunger
9	70641356	4	PLUNGER, shifting shaft
10	70650376	4	WASHER, shifting shaft plunger spring
11	70641837	4	SPRING, shifting shaft plunger
12	70622479	1	GASKET, plunger retaining bar
13	70622478	1	BAR, plunger retaining
14	70916272	2	CAPSCREW, 3/8"NC x 1-1/4"
	70904206	2	LOCKWASHER, 3/8"
15	70642678	1	PLATE, shaft guiding
16	70638953	8	DETENT, shifting shaft interlock
17	70638954	2	SPACER, interlock detent
18	70642701	1	SHAFT, shifting fork, upper
19	70629282	1	SHAFT, shifting fork, intermediate upper
20	70629283	1	SHAFT, shifting fork, intermediate lower (Graders prior to #1697 excluding EXCEPTIONS listed below)
	70652897	1	SHAFT, shifting fork, intermediate lower (Graders #1697 and up including EXCEPTIONS listed below)
21	70629284	1	SHAFT, shifting fork, lower
22	70621790	1	FORK, upper shifting shaft
23	70621802	2	CAPSCREW, drilled-hd., 1/2"NF x 1-1/2"
	70023633	2	WIRE, locking, 1/16" x 12"
24	70099918	1	FORK, intermediate upper shifting shaft
25	70621802	2	CAPSCREW, drilled-hd., 1/2"NF x 1-1/2"
	70023633	2	WIRE, locking, 1/16" x 12"
26	70621788	1	FORK, intermediate lower shifting shaft
27	70060833	1	CAPSCREW, drilled-hd., 1/2"NF x 1-1/4"
	70023633	1	WIRE, locking, 1/16" x 12"

(Continued)

GEAR SHIFT FORKS AND LOCKS (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
28	70621789	1	FORK, lower shifting shaft
29	70621802	2	CAPSCREW, drilled-hd., 1/2"NF x 1-1/2"
	70023633	2	WIRE, locking, 1/16" x 12"
30	70629218	2	GUIDE, shifter, upper and intermediate upper shafts
31	70629218	1	GUIDE, shifter, intermediate lower shaft (Graders prior to #1697 excluding EXCEPTIONS listed below)
	70652899	1	GUIDE, shifter, intermediate lower shaft (Graders #1697 and up including EXCEPTIONS listed below)
32	70629219	1	GUIDE, shifter, lower shaft (Graders prior to #1697 excluding EXCEPTIONS listed below)
	70652907	1	GUIDE, shifter, lower shaft (Graders #1697 and up including EXCEPTIONS listed below)
33	70633372	4	SETSCREW, shifter guides
	70913830	4	NUT, jam, 1/2"NF
34	70023633	4	WIRE, locking, 1/16" x 12"
35	70050267	1	WASHER, plunger sleeve (copper)
36	70078402	1	WASHER, shifting lock plunger
37	70620975	1	SLEEVE, shifting lock plunger (Used prior to grader #600)
	70635081	1	SLEEVE, shifting lock plunger (Effective with grader #600)
38	70080166	1	BOOT, locking plunger (Used prior to grader #600)
	70635082	1	BOOT, locking plunger (Effective with grader #600)
	70916897	2	CLAMP, hose, 1" diam.
39	70642478	1	PLUNGER, shifting lock
	70916146	1	PIN, spring, 3/32" x 1/2"
40	70923560	1	O-RING, shifting lock plunger (Effective with grader #600)
41	70627451	1	PIN, shifting lock plunger
	70900801	1	PIN, cotter, 3/32" x 3/4"
42	70644140	1	LINK, locking plunger
	70911115	1	WASHER, plain, SAE std., 3/8"
	70900801	1	PIN, cotter, 3/32" x 3/4"
43	-----	1	STUD, connecting, link to lever (Graders prior to #1343)(Order PIN 70650177 and CAPSCREW 70919226)
	70904206	1	LOCKWASHER, 3/8"
	70911041	1	NUT, 3/8"NF
	70650177	1	PIN, connecting, link to lever (Effective with grader #1343)
	70919226	1	CAPSCREW, 3/8"NC x 1-5/8"
	70904206	1	LOCKWASHER, 3/8"
44	70644132	1	LEVER ASSEMBLY, plunger rod operating (Includes item 45)
	70910255	1	WASHER, plain, SAE std., 3/4"
	70910302	1	PIN, cotter, 5/32" x 1-1/4"
45	70644131	1	BUSHING, plunger rod operating lever (Effective with grader #673)
46	70649857	1	BRACKET, rod operating lever

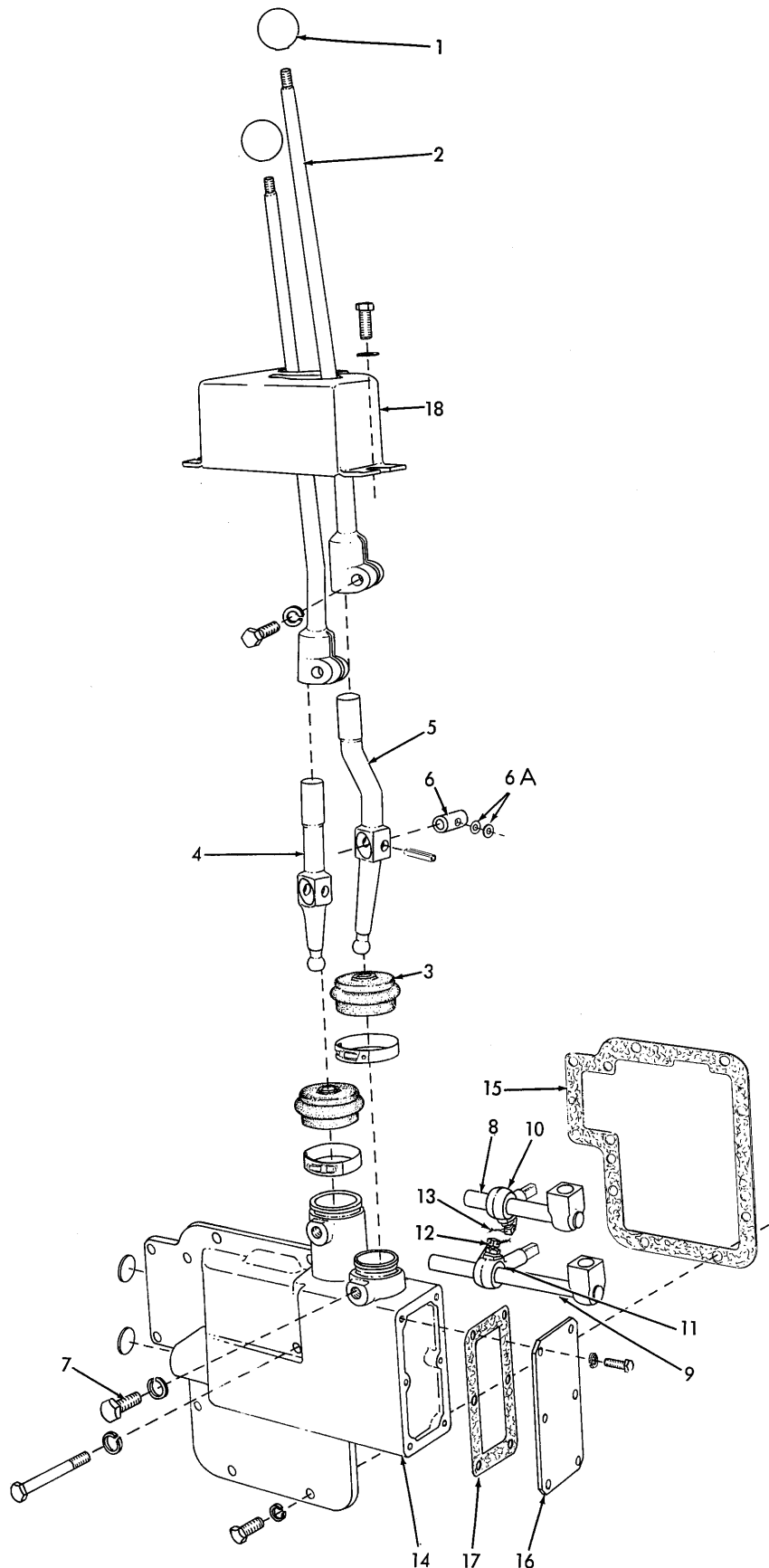
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GEAR SHIFT FORKS AND LOCKS (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
47	-----	1	JOINT, ball and socket (Used prior to grader #519. Order 70641986 and items 50, 51 and 52)
	70641986	1	JOINT, ball and socket (Effective with grader #519)
	70904206	1	LOCKWASHER, 3/8"
	70911041	1	NUT, 3/8"NF
48	70642692	1	STRAP, restricting, ball and socket joint (Used prior to grader #519)
49	70628748	1	YOKE, joint adjusting (3/8"NF)(Used prior to grader #519)
	70911041	1	NUT, 3/8"NF
50	70650152	1	ROD, connecting
	70911041	1	NUT, 3/8"NF
	70916168	2	PIN, spring, 1/8" x 3/4"
51	70641989	1	SPRING, connecting rod
52	70641358	1	YOKE, connecting rod
53	70630753	1	WASHER, connecting rod (Effective with grader #1263)
54	70078810	1	PIN, joint adjusting yoke
	70900801	1	PIN, cotter, 3/32" x 3/4"
55	-----	1	SHAFT, operating (See ENGINE CLUTCH CONTROL)

Effective with grader #519

EXCEPTIONS: Graders No. 1641, 52, 69, 70, 83, 87, 88, 89, 94 and 95



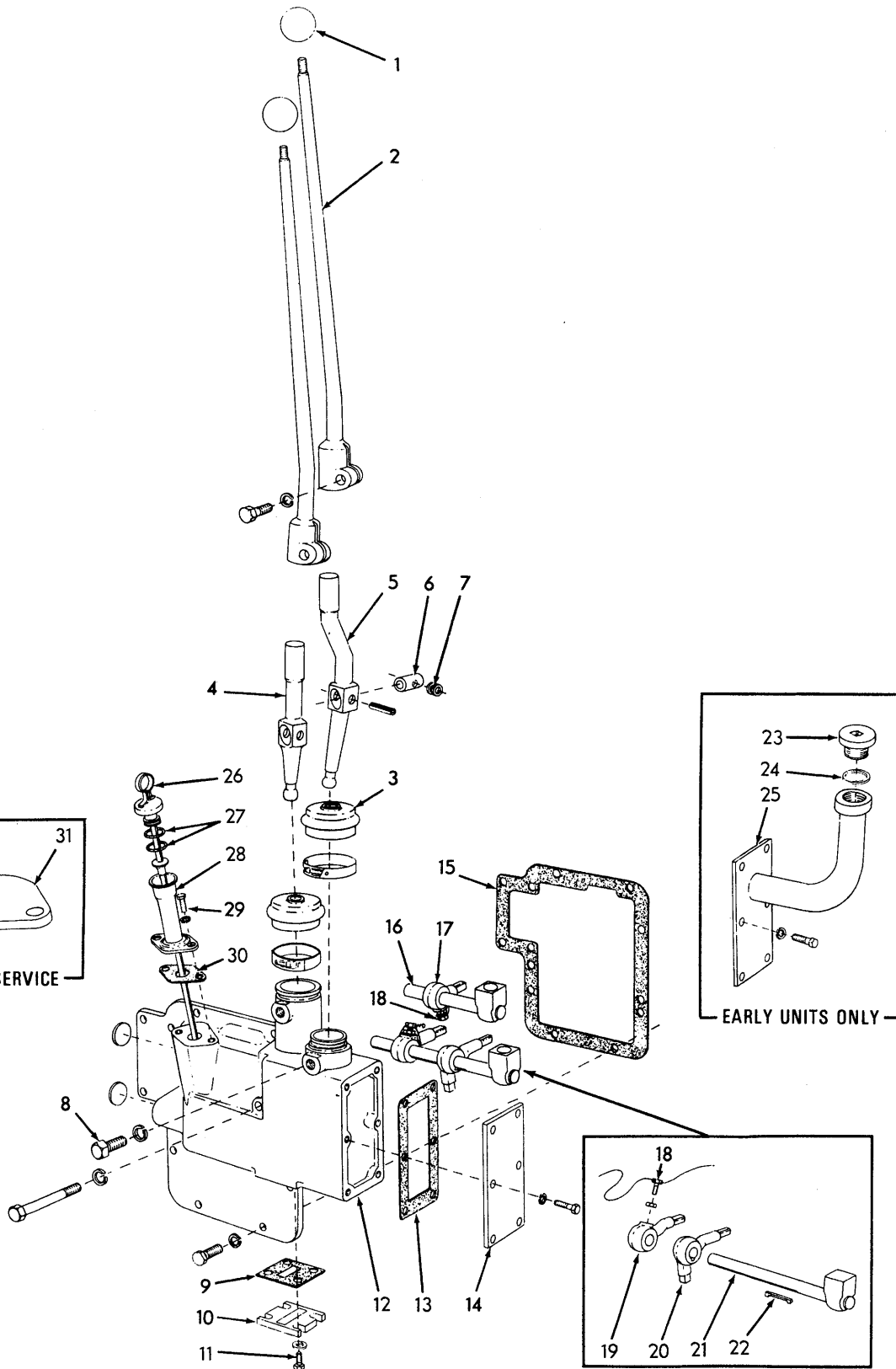
GEAR SHIFT CONTROLS (First type)

T-38111

GEAR SHIFT CONTROLS

USAGE: Graders prior to serial No. 1697 excluding Nos. 1641, 52, 69, 70, 83, 87, 88, 89, 94, 95.

ITEM	PART NO.	QTY.	DESCRIPTION
1	70091862	2	KNOB, extension lever
2	70629220	2	LEVER, extension
	70917010	2	CAPSCREW, 1/2"NC x 1-7/8"
	70904208	2	LOCKWASHER, 1/2"
3	70078742	2	BOOT, shift lever
	70916995	2	CLAMP, hose, 3" diam.
4	70629325	1	LEVER, speed selection shift
5	70629324	1	LEVER, high-low shift
6	70622080	2	SHAFT, shift lever pivot
	70915500	2	PIN, spring, 3/8" x 1-3/4"
6A	70650159	2	WASHER, shimming (1/32" thick)
	70650030	2	WASHER, shimming (1/16" thick)
} Use as req'd			
7	70621330	4	SCREW, shift lever pivot
	70904209	4	LOCKWASHER, 5/8"
8	70629210	1	SHAFT, operating, upper selector arm
9	70629209	1	SHAFT, operating, lower selector arm
10	70647716	1	ARM, selector, upper
11	70647715	1	ARM, selector, lower
12	70605028	2	SETSCREW, selector arms
	70913830	2	NUT, jam, 1/2"NF
13	70023633	2	WIRE, locking, 1/16" x 12"
14	70629206	1	HOUSING, gear shift
	70910006	2	PLUG, expansion, 1-1/4" diam.
	70915666	10	CAPSCREW, 1/2"NC x 1-3/8"
	70906702	1	CAPSCREW, 1/2"NC x 4-1/4"
	70904208	11	LOCKWASHER, 1/2"
15	70652896	1	GASKET, housing
16	70629214	1	COVER, housing
	70920539	6	CAPSCREW, Nylok, 3/8"NC x 1"
	70904206	6	LOCKWASHER, 3/8"
17	70629213	1	GASKET, cover
18	-----	1	GUIDE, shift lever (Discontinued. Not serviced since is unnecessary)
	70903638	3	CAPSCREW, 1/2"NC x 1-1/4"
	70910244	3	WASHER, plain, SAE std., 1/2"



GEAR SHIFT CONTROLS (Second Type)

T-73601

GEAR SHIFT CONTROLS

USAGE: Graders serial No. 1697 and up including Nos. 1641, 52, 69, 70, 83, 87, 88, 89, 94, 95

ITEM	PART NO.	QTY.	DESCRIPTION
1	70091862	2	KNOB, extension lever
2	70629220	2	LEVER, extension
	70917010	2	CAPSCREW, 1/2"NC x 1-7/8"
	70904208	2	LOCKWASHER, 1/2"
3	70078742	2	BOOT, shift lever
	70916995	2	CLAMP, hose, 3" diam.
4	70629325	1	LEVER, speed selection shift
5	70629324	1	LEVER, high-low shift
6	70622080	2	SHAFT, shift lever pivot
	70915500	2	PIN, roll, 3/8" x 1-3/4"
7	70650159	2	WASHER, shimming (1/32" thick)
	70650030	2	WASHER, shimming (1/16" thick)
			} Use as required.
8	70621330	4	SCREW, shift lever pivot
	70904209	4	LOCKWASHER, 5/8"
9	70652901	1	GASKET, locating block
10	70652903	1	BLOCK, locating, locking arm
11	70919224	4	CAPSCREW, 3/8"NC x 1-1/8"
	70911115	4	WASHER, plain, SAE std., 3/8"
12	70652950	1	HOUSING, gear shift (Graders prior to #2190)
	70661814	1	HOUSING, gear shift (Graders #2190 and up)
	70910006	2	PLUG, expansion, 1-1/4" diam.
	70915666	10	CAPSCREW, 1/2"NC x 1-3/8"
	70906702	1	CAPSCREW, 1/2"NC x 4-1/4"
	70904208	11	LOCKWASHER, 1/2"
13	70629213	1	GASKET, cover
14	70629214	1	COVER, housing (All units except graders #1732 thru #2189)
	70920539	6	CAPSCREW, Nylok, 3/8"NC x 1"
	70904206	6	LOCKWASHER, 3/8"
15	70652896	1	GASKET, housing
16	70629210	1	SHAFT, operating, upper selector arm
17	70647716	1	ARM, selector, upper shaft
18	70605028	2	SETSCREW, selector arms
	70913830	2	NUT, jam, 1/2"NF
	70023633	2	WIRE, locking, 1/16" x 12"
19	70652898	1	ARM, selector, lower shaft
20	70652908	1	ARM, locking, lower selector shaft

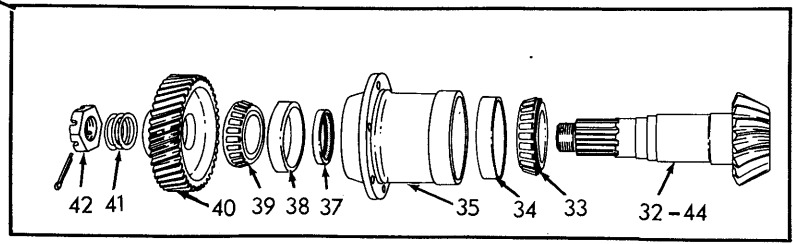
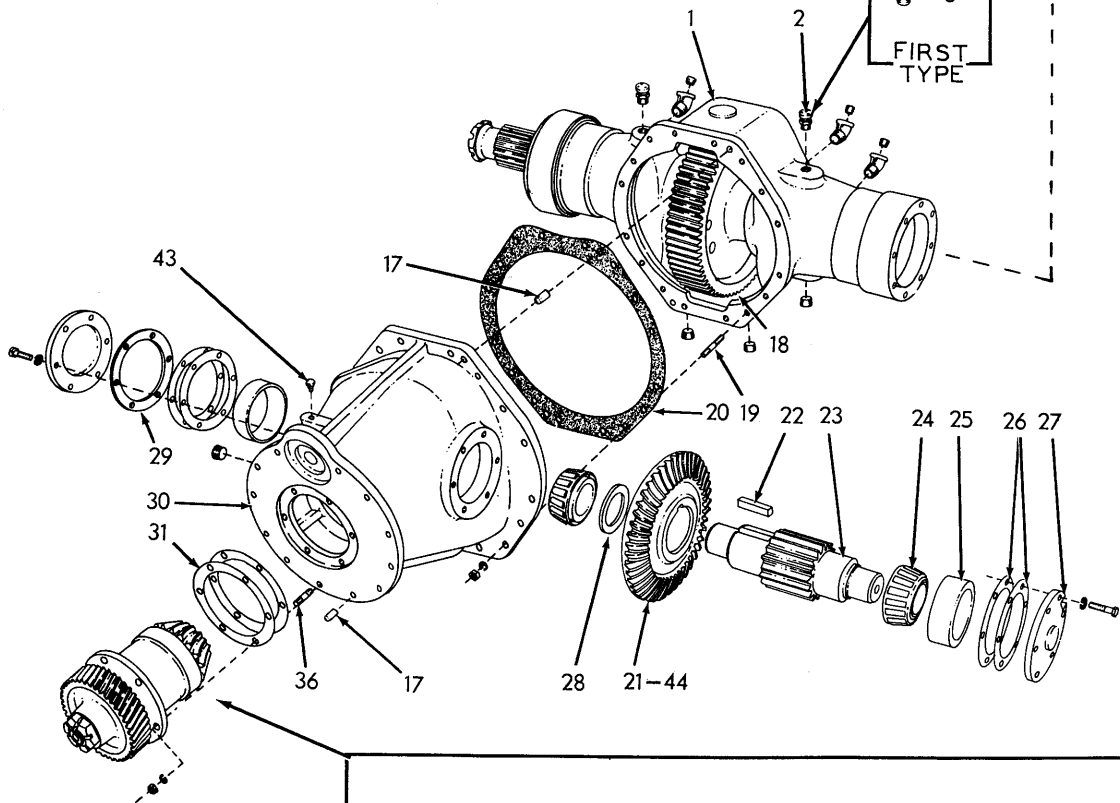
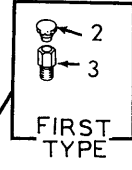
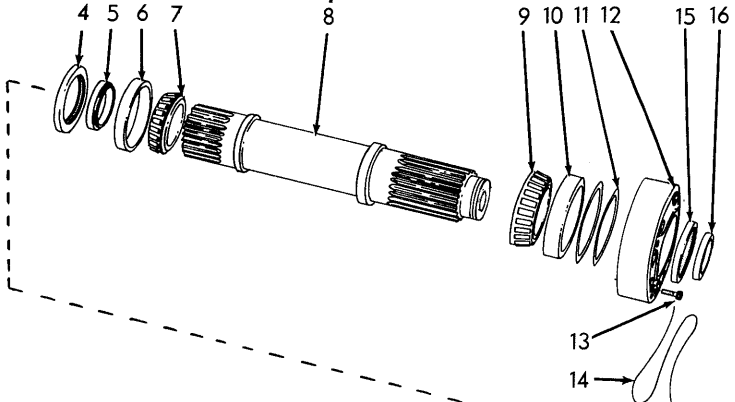
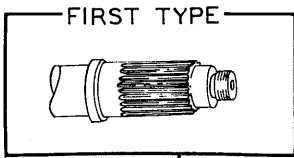
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GEAR SHIFT CONTROLS (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION	
21	70652949	1	SHAFT, operating, lower selector arm	
22	70652902	1	KEY, locking arm	
23	70050594	1	PLUG, oil filler	} Graders #1732 thru #2189
24	70050595	1	GASKET, oil filler plug	
25	70657918	1	FILLER, housing (Graders #1732 thru #2189)	
	70920539	6	CAPSCREW, Nylok, 3/8"NC x 1"	
	70904206	6	LOCKWASHER, 3/8"	
26	70661818	1	DIPSTICK ASSEMBLY, transmission oil level (Includes item 27)	} Graders #2190 and up
27	70923574	2	O-RING, oil level dipstick	
28	70661816	1	TUBE, oil level dipstick	
29	70916269	2	CAPSCREW, 3/8"NC x 7/8"	
	70904206	2	LOCKWASHER, 3/8"	
30	70664946	1	GASKET, dipstick tube	
31	70630947	1	COVER, dipstick hole (For special service on graders prior to #2190)	

MEMO

135B



REAR AXLE

T-71317

REAR AXLE

* Graders prior to serial No. 1704
 ** Graders serial No. 1704 and up

ITEM	PART NO.	QTY. * **	DESCRIPTION
1	70648708	1 1	HOUSING, rear axle (If for first replacement on graders prior to #1067 also order 2 VENT 70634161)
	70911076	3 3	ELBOW, street, 45 ^o , 1"NPT
	70901666	6 6	PLUG, pipe, ctsk-hd., 1"NPT
2	{ 70605132	2 -	VENT, air, rear axle housing (Graders prior to #1067)
	{ 70634161	2 2	VENT, air, rear axle housing (Graders #1067 and up)
3	70605917	2 -	ADAPTER, air vent (Graders prior to #1067)
4	70634519	2 2	SEAL, oil inner
5	70634441	2 2	SLEEVE, wear, inner oil seal
6	70605336	2 2	CUP, inner bearing
7	70605337	2 2	CONE ASSEMBLY, inner bearing
8	{ 70634436	2 -	AXLE, rear (threaded end)
	{ 70653847	- 2	AXLE, rear (grooved end)
9	70634527	2 2	CONE ASSEMBLY, outer bearing
10	70634513	2 2	CUP, outer bearing
11	{ 70638693	8 8	SHIM, adjusting, outer bearing (.003" thick)
	{ 70634508	10 10	SHIM, adjusting, outer bearing (.005" thick)
	{ 70634507	4 4	SHIM, adjusting, outer bearing (.010" thick)
			} Use as req'd
12	{ 70646721	2 -	CAP, outer bearing
	{ 70653825	- 2	CAP, outer bearing
13	70604963	16 16	CAPSCREW, bearing cover, drilled-hd., 1/2"NC x 1-3/8"
14	70052519	2 2	WIRE, locking, 1/16" x 39"
15	70634519	2 2	SEAL, oil, outer
16	70634440	2 2	SLEEVE, wear, outer oil seal
17	70910179	3 3	PIN, dowel, cross shaft housing (5/8" x 1-1/2")
18	70095581	1 1	GEAR (72 teeth)

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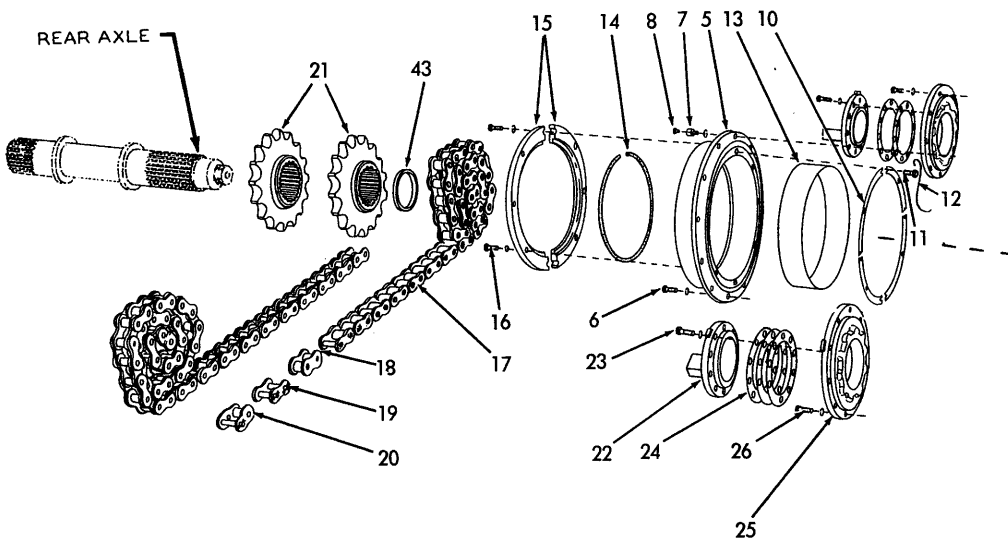
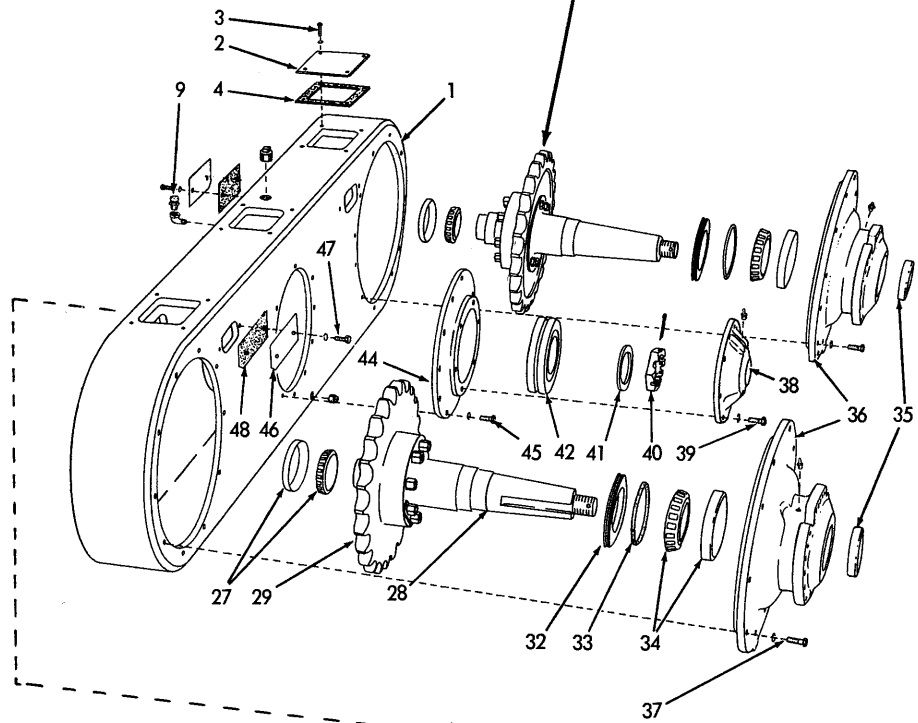
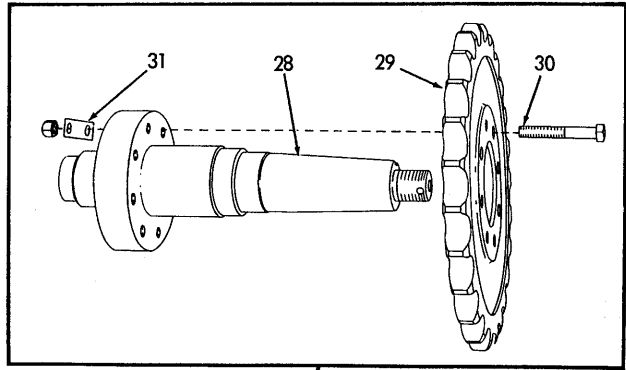
REAR AXLE (Continued)

ITEM	PART NO.	QTY. * **	DESCRIPTION	
19	70605416	16 16	STUD, cross shaft housing (5/8" diam.)	
	70904209	16 16	LOCKWASHER, 5/8"	
	70911029	16 16	NUT, 5/8"NC	
20	{ 70605106	1 1	GASKET, cross shaft housing (.015" thick)	} Use as req'd.
	{ 70643749	1 1	GASKET, cross shaft housing (.020" thick)	
21	-----	1 1	GEAR, bevel, cross shaft (45 teeth)(Order item 44)	
22	70604982	1 1	KEY, cross shaft bevel gear (1/2" x 3/4" x 2-11/16")	
23	70649010	1 1	SHAFT AND PINION, cross (17 teeth)	
24	70605335	2 2	CONE ASSEMBLY, cross shaft bearing	
25	70605334	2 2	CUP, cross shaft bearing	
26	{ 70605085	16 16	SHIM, adjusting, cross shaft bearing (.005" thick)	} Use as req'd.
	{ 70065042	4 4	SHIM, adjusting, cross shaft bearing (.015" thick)	
27	70066751	2 2	COVER, cross shaft bearing	
	70904541	6 6	CAPSCREW, 1/2"NC x 1-3/4" (left side)	
	70903640	6 6	CAPSCREW, 1/2"NC x 2" (right side)	
	70904208	12 12	LOCKWASHER, 1/2"	
28	70066673	1 1	WASHER, cross shaft bevel gear	
29	70066674	1 1	WASHER, spacing, cross shaft bearing cover	
30	70621752	1 1	HOUSING, cross shaft	
	70901666	1 1	PLUG, pipe, ctsk-hd., 1"NPT	
31	{ 70200078	4 4	SHIM, adjusting, bevel pinion mesh (.005" thick)	} Use as req'd.
	{ 70200314	3 3	SHIM, adjusting, bevel pinion mesh (.015" thick)	
32	-----	1 1	PINION AND SHAFT (18 teeth)(Order item 44)	
33	{ 70633712	1 -	CONE ASSEMBLY, bevel pinion shaft rear bearing (1-9/16" wide)	}
	{ 70648396	- 1	CONE ASSEMBLY, bevel pinion shaft rear bearing (1-13/16" wide)	
34	{ 70633711	1 -	CUP, bevel pinion shaft rear bearing (1-1/4" wide)	}
	{ 70182440	- 1	CUP, bevel pinion shaft rear bearing (1-7/16" wide)	
35	{ 70633714	1 -	CARRIER ASSEMBLY, bevel pinion and shaft	} Each includes items 34 and 38
	{ 70648395	- 1	CARRIER ASSEMBLY, bevel pinion and shaft	
36	70061842	6 6	STUD	
	70904208	6 6	LOCKWASHER, 1/2"	
	70911043	6 6	NUT, 1/2"NF	
37	70638607	1 1	SEAL, oil, bevel pinion shaft	
38	{ 70061090	1 -	CUP, bevel pinion shaft front bearing (15/16" wide)	}
	{ 70087026	- 1	CUP, bevel pinion shaft front bearing (1-3/16" wide)	

(Continued)

R E A R A X L E (Continued)

ITEM	PART NO.	QTY. * **	DESCRIPTION	
39	70061089	1 -	CONE ASSEMBLY, bevel pinion shaft front bearing (1-3/16" wide)	
	70087027	- 1	CONE ASSEMBLY, bevel pinion shaft front bearing (1-1/2" wide)	
40	70080500	1 1	GEAR, bevel pinion shaft (41 teeth)	
41	70605494	8 8	SHIM, adjusting, pinion shaft bearings (.002" thick)	} Use as req'd.
	70605493	6 6	SHIM, adjusting, pinion shaft bearings (.005" thick)	
	70605492	5 5	SHIM, adjusting, pinion shaft bearings (.020" thick)	
42	70605477	1 1	NUT, bevel pinion shaft (hex, slotted)	
	70901345	1 1	PIN, cotter, 1/4" x 2-1/2"	
43	70605132	1 1	VENT, air, cross shaft housing	
44	-----	1 -	GEAR SET, matched (Order GEAR SET 70653982, CONE ASSY. 70648396, CARRIER ASSY. 70648395 and CONE ASSY. 70087027)	
	70653982	- 1	GEAR SET, matched (Items 21 and 32)	



TANDEMS (First type)

T-37250

TANDEMS

USAGE: Graders prior to serial No. 1704

ITEM	PART NO.	QTY.	DESCRIPTION
1	70650645	2	CASE, tandem
	70912768	2	PLUG, pipe, 1"NPT (oil filling hole)
	70912725	4	PLUG, pipe, 1/2"NPT (oil drain and checking)
2	70604481	6	COVER, case access holes (top)
3	70035439	24	CAPSCREW, 3/8"NC x 1"
	70904206	24	LOCKWASHER, 3/8"
4	70604482	6	GASKET, case cover
5	70648566	2	HUB, tandem case
6	70035061	24	CAPSCREW, 1/2"NC x 1-1/4" } 2 less used on graders
	70904208	24	LOCKWASHER, 1/2" } prior to #1072
7	70064129	2	ADAPTER, air vent (Graders prior to #1072)
	70904208	2	LOCKWASHER, 1/2"
8	70605132	2	VENT, air, tandem case (Graders prior to #1072)
9	70634161	2	VENT, air tandem case (Graders #1072 and up)
	70907059	2	ELBOW, street, 90°, 1/8"NPT
10	70620164	8	SEGMENT, retaining, case hub bushing
11	70644325	16	CAPSCREW, drilled-hd., 5/16"NC x 1/2"
12	70037000	8	WIRE, locking, 1/16" x 16"
13	70620170	2	BUSHING, case hub
14	70620165	2	SEAL, case hub
15	70634397	2	RETAINER, hub seal (2 halves)
16	70035733	16	CAPSCREW, 1/2"NC x 1-3/8"
	70904208	16	LOCKWASHER, 1/2"
17	70620167	4	CHAIN, driving (51 links, 2" pitch)(Includes items 18 thru 20)
18	70605578	-	LINK, roller, driving chain
19	70605508	-	LINK, connecting, driving chain (Includes side bar and cotter pins)
20	70605507	4	LINK, offset, driving chain (Includes connecting pin and cotter pin)
21	70620292	4	SPROCKET, driving (16 teeth)
22	70649254	4	STOP, tandem
23	70035733	40	CAPSCREW, 1/2"NC x 1-3/8"
	70904208	40	LOCKWASHER, 1/2"
24	70639679	4	SHIM, adjusting, wheel shaft bearings (.003" thick)
	70064763	4	SHIM, adjusting, wheel shaft bearings (.005" thick)
	70604477	36	SHIM, adjusting, wheel shaft bearings (.010" thick)
} Use as req'd.			
25	70604480	4	ECCENTRIC, tandem wheel shaft, inner
26	70035733	40	CAPSCREW, 1/2"NC x 1-3/8"
	70904208	40	LOCKWASHER, 1/2"
27	70633870	4	BEARING, roller, tandem wheel shafts, inner (Each consists of 1 cup and 1 roller assembly. Serviced only as a unit)

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TANDEMS (Continued)

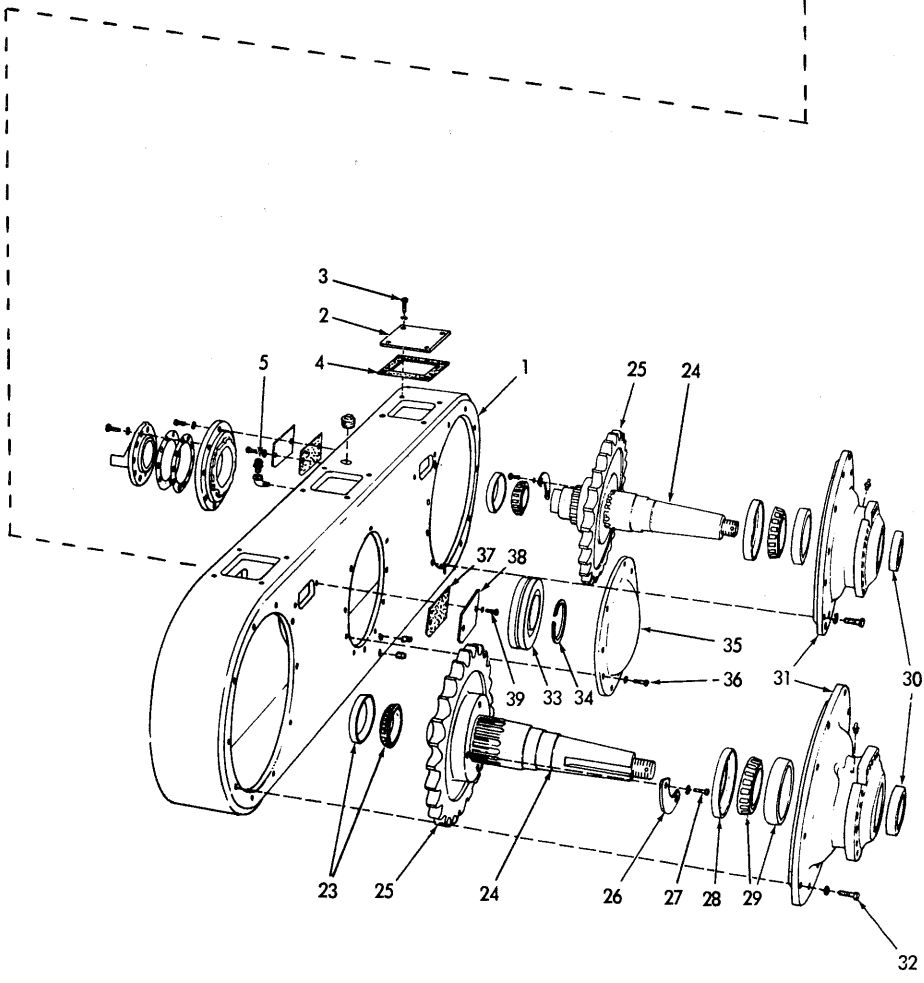
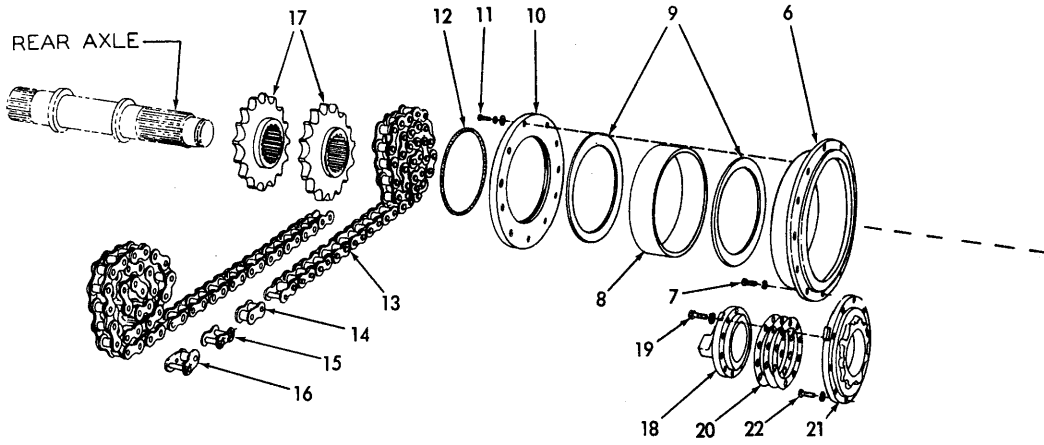
ITEM	PART NO.	QTY.	DESCRIPTION
28	70631117	4	SHAFT, wheel
29	70620293	4	SPROCKET, driving, wheel shaft
30	70620166	32	CAPSCREW, 5/8"NF x 4-1/8"
	70911044	32	NUT, 5/8"NF
31	70620168	16	PLATE, locking
32	70631118	4	RETAINER, bearing compartment sealing ring
33	70238070	4	O-RING, bearing compartment
34	70633871	4	BEARING, roller, tandem wheel shafts, outer (Each consists of 1 cup and 1 roller assembly. Serviced only as a unit)
35	70631119	4	SEAL, oil, wheel shaft
36	70654590	4	ECCENTRIC, tandem wheel shaft, outer (If for graders prior to #596 also order brake TUBE 70643519, 20 21 or 22 depending on location)
	70914465	4	FITTING, lubricating, straight, 1/8"NPT
37	70035061	40	CAPSCREW, 1/2"NC x 1-1/4"
	70904208	40	LOCKWASHER, 1/2"
38	70648401	2	CAP, rear axle bearing (If for graders prior to #1027 also order 2 CAPSCREWS 70924000)
	70914465	2	FITTING, lubricating, straight, 1/8"NPT
39	{70035061	8	} 4 additional used prior to grader #1027
	70904208	8	
	70924000	4	
			CAPSCREW, flat-hd., hex-socket, 1/2"NC x 1-1/4" (Effective with grader #1027)
40	70604968	2	NUT, rear axle
	70911690	2	PIN, cotter, 1/4" x 3-1/4"
41	70078895	2	WASHER, rear axle nut
42	70634395	2	BEARING, roller, rear axle
43	70634393	2	SPACER, rear axle bearing
44	70634394	2	CARRIER, rear axle bearing
45	70035061	24	CAPSCREW, 1/2"NC x 1-1/4"
	70904208	24	LOCKWASHER, 1/2"
46	70634876	8	COVER, chain access holes (side)
47	70035439	16	CAPSCREW, 3/8"NC x 1"
	70904206	16	LOCKWASHER, 3/8"
48	70634875	8	GASKET, chain access hole cover

TANDEMS

USAGE: Graders serial No. 1704 and up

ITEM	PART NO.	QTY.	DESCRIPTION	
1	70650645	2	CASE, tandem	
	70912768	2	PLUG, pipe, 1"NPT (oil filling hole)	
	70912725	4	PLUG, pipe, 1/2"NPT (oil drain and checking)	
2	70604481	6	COVER, case access holes (top)	
3	70035439	24	CAPSCREW, 3/8"NC x 1"	
	70904206	24	LOCKWASHER, 3/8"	
4	70604482	6	GASKET, case cover	
5	70634161	2	VENT, air tandem case	
	70907059	2	ELBOW, street, 90°, 1/8"NPT	
6	70653848	2	HUB, tandem case	
7	07035733	24	CAPSCREW, 1/2"NC x 1-3/8"	
	70904208	24	LOCKWASHER, 1/2"	
8	70620170	2	BUSHING, case hub	
9	70653828	4	WASHER, thrust	
10	70653837	2	RING, tandem retaining	
11	70035733	16	CAPSCREW, 1/2"NC x 1-3/8"	
	70904208	16	LOCKWASHER, 1/2"	
12	70653846	2	O-RING, tandem sealing	
13	70620167	4	CHAIN, driving (51 links, 2" pitch)(Includes items 14 thru 16)	
14	70605578	-	LINK, roller, driving chain	
15	70605508	-	LINK, connecting, driving chain (Includes side bar and cotter pins)	
16	70605507	4	LINK, offset, driving chain (Includes connecting pin and cotter pin)	
17	70653827	4	SPROCKET, driving (16 teeth)	
18	70649254	4	STOP, tandem	
19	70035733	40	CAPSCREW, 1/2"NC x 1-3/8"	
	70904208	40	LOCKWASHER, 1/2"	
20	70639679	4	SHIM, adjusting, wheel shaft bearings (.003" thick) } Use as req'd.	
	70064763	4		SHIM, adjusting, wheel shaft bearings (.005" thick)
	70604477	36		SHIM, adjusting, wheel shaft bearings (.010" thick)
21	70604480	4	ECCENTRIC, tandem wheel shaft, inner	
22	70035733	40	CAPSCREW, 1/2"NC x 1-3/8"	
	70904208	40	LOCKWASHER, 1/2"	
23	70633870	4	BEARING, roller, tandem wheel shafts, inner (Each consists of 1 cup and 1 roller assembly. Serviced only as a unit)	
24	70653823	4	SHAFT, wheel	
25	70653822	4	SPROCKET, driving, wheel shaft	

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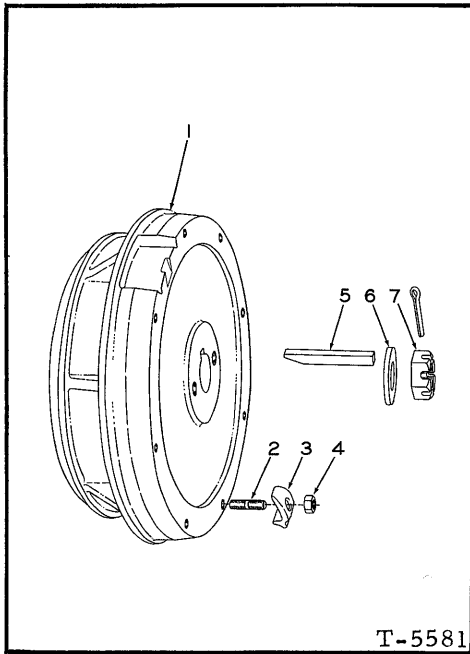
TANDEMS (Second type)

T-73602

TANDEMS (Continued)

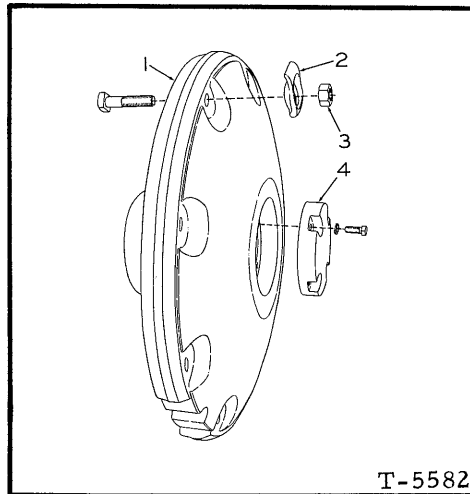
ITEM	PART NO.	QTY.	DESCRIPTION
26	70653821	8	PLATE, sprocket retaining
27	70035439	16	CAPSCREW, 3/8"NC x 1"
	70904206	16	LOCKWASHER, 3/8"
28	70653820	4	SEAL, oil, wheel shaft, inner
29	70633871	4	BEARING, roller, tandem wheel shafts, outer (Each consists of 1 cup and 1 roller assembly. Serviced only as a unit)
30	70631119	4	SEAL, oil, wheel shaft, outer
31	70654590	4	ECCENTRIC, tandem wheel shaft, outer
	70914465	4	FITTING, lubricating, straight, 1/8"NPT
32	70035733	40	CAPSCREW, 1/2"NC x 1-3/8"
	70904208	40	LOCKWASHER, 1/2"
33	70634395	2	BEARING, roller, rear axle
34	70183067	2	RING, snap, rear axle
35	70654006	2	CARRIER, rear axle bearing
36	70035061	24	CAPSCREW, 1/2"NC x 1-1/4"
	70904208	24	LOCKWASHER, 1/2"
37	70634875	8	GASKET, chain access hole cover
38	70634876	8	COVER, chain access holes (side)
39	70035439	16	CAPSCREW, 3/8"NC x 1"
	70904206	16	LOCKWASHER, 3/8"

REAR WHEELS



ITEM	PART NO.	QTY.	DESCRIPTION
1	70631120	4	WHEEL, tandem
2	70603488	32	STUD, rim clamp (5/8" diam.)
3	70603489	32	CLAMP, wheel rim
4	70601405	32	NUT, rim clamp (5/8"NC)
5	70066986	4	KEY, tandem wheels
6	70605918	4	WASHER, wheel retaining
7	70060670	4	NUT, wheel retaining (1-3/4"NF)
	70901348	4	PIN, cotter, 3/8" x 2-1/2"

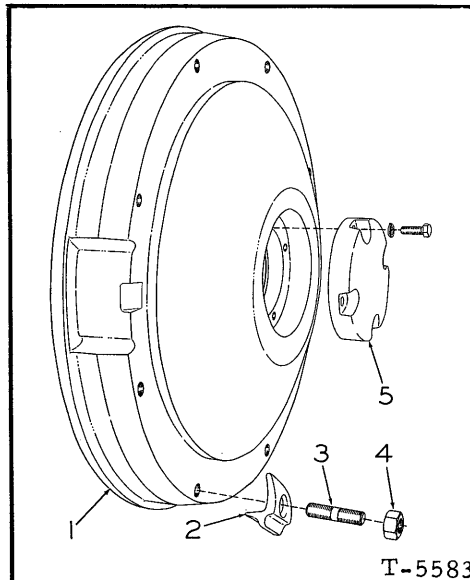
FRONT WHEELS



USAGE: Standard equipment on graders prior to serial No. 1001; special equipment thereafter. For 9.00 tires

1	70634592	2	WHEEL, front
2	70604361	16	CLAMP, front wheel rim
	70912181	16	BOLT, machine, 5/8"NC x 2-3/4"
3	70601405	16	NUT, rim clamp (5/8"NC)
4	70634593	2	CAP, front wheel hub
	70903630	8	CAPSCREW, 3/8"NC x 1"
	70904206	8	LOCKWASHER, 3/8"

FRONT WHEELS



USAGE: Special equipment on graders prior to serial No. 1001; standard equipment thereafter. For 13.00 or 14.00 tires

1	70634591	2	WHEEL, front
2	70603489	16	CLAMP, front wheel rim
3	70603488	16	STUD, rim clamp (5/8" diam.)
4	70601405	16	NUT, rim clamp (5/8"NC)
5	70634593	2	CAP, front wheel hub
	70903630	8	CAPSCREW, 3/8"NC x 1"
	70904206	8	LOCKWASHER, 3/8"

TIRES AND RIMS
(Not Illustrated)

ITEM PART NO. QTY. DESCRIPTION

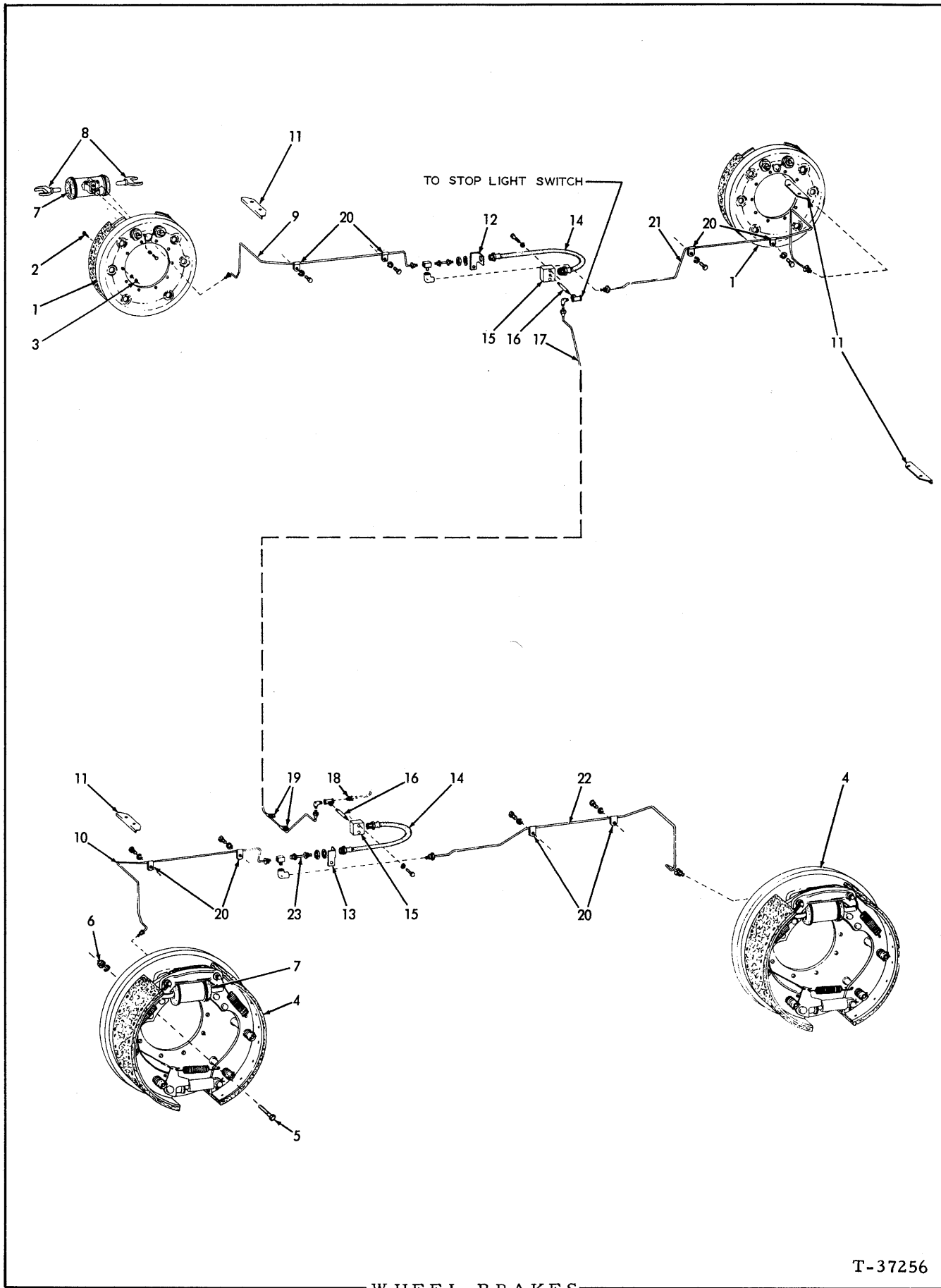
NOTE: Order from local Tire Dealer. Tire
equipment listed below is optional.

For Rear Wheels

1	{	-----	4	RIM ASSY., pneumatic tire, demountable rim, 24x8 (Goodyear No. 8024TGD, Fireston No. 88T5 ⁰ -1 or Firestone No. 88T-5 ⁰)
		-----	4	RIM ASSY., pneumatic tire, demountable rim 25x14 (Firestone RA-45143. For 17.50 x 25 tubeless tires. Includes O-ring)
2	{	-----	4	TIRE, pneumatic, road grader, 13.00-24", 8 to 16 ply rating
		-----	4	TIRE, pneumatic, road grader, 14.00-24", 8 to 12 ply rating
		-----	4	TIRE, pneumatic, sure-grip loader type, 17.50 x 25, ply rating.
3	-----	4	VALVE, rim, TR-618	

For Front Wheels

4	{	-----	2	RIM ASSY., pneumatic tire, 24 x 6.50 (Goodyear No. 6524JMD) (For 9.00 tire)
		-----	2	RIM ASSY., pneumatic tire, demountable rim, 24x8 (Goodyear No. 8024TGD, Firestone No. 88T5 ⁰ -1 or Firestone No. 88T-5 ⁰)
		-----	2	RIM ASSY., pneumatic tire, demountable rim, 25x14 (Firestone RA-45143. For 17.50x25 tubeless tires. Includes O-ring)
5	{	-----	2	TIRE, pneumatic, road grader, ribbed tread, 9.00-24", 10 ply rating
		-----	2	TIRE, pneumatic, road grader, 13.00-24", 8 to 16 ply rating
		-----	2	TIRE, pneumatic, road grader, 14.00-24", 8 to 12 ply rating
		-----	2	TIRE, pneumatic, sure-grip loader type, 17.50 x 25, 12 ply rating
6	{	-----	2	VALVE, rim, TR-534 (For 9.00 Tires only)
		-----	2	VALVE, rim, TR-618 (For 13.00, 14.00 and 17.50 Tires)



WHEEL BRAKES

T-37256

WHEEL BRAKES

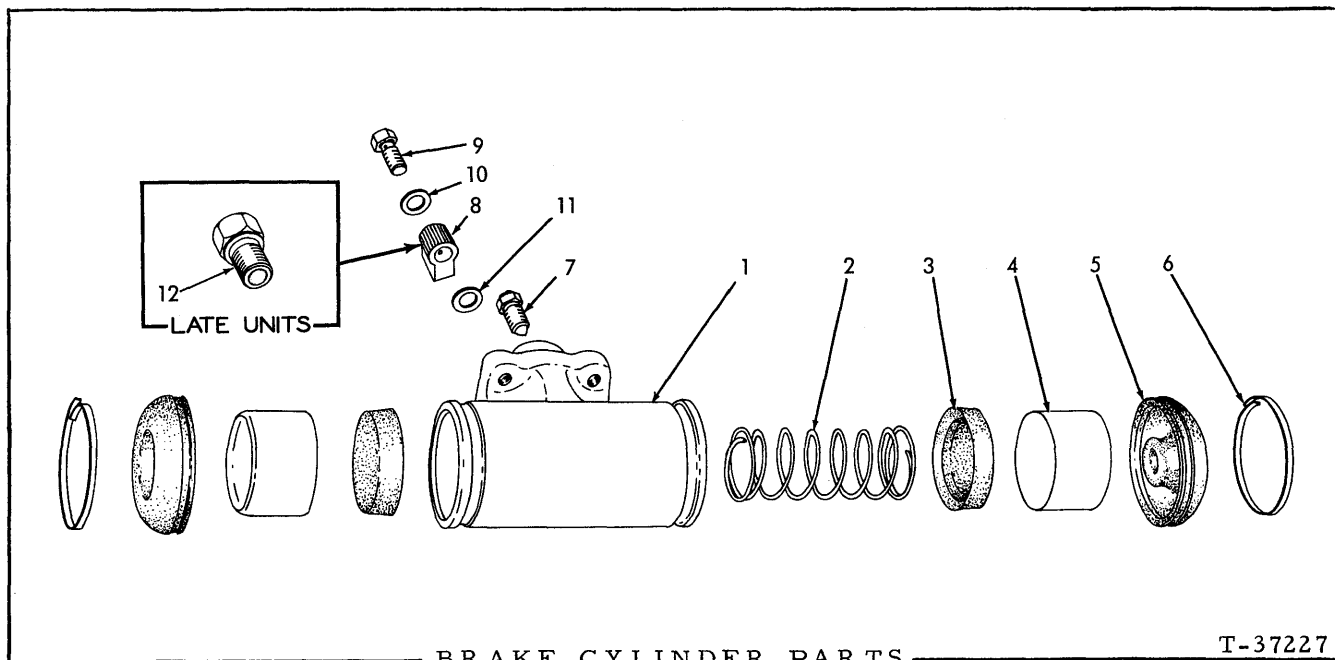
* Graders prior to serial No. 596
 ** Graders serial No. 596 and up

ITEM	PART NO.	QTY. * **	DESCRIPTION
<u>NOTE:</u> Each Brake Assembly listed below includes cylinder attaching capscrews			
1	70639745	2 -	BRAKE ASSEMBLY, left wheel (See page 153 for parts)
	70643497	- 2	BRAKE ASSEMBLY, left wheel (See page 153 for parts)(Graders #596 thru #1999)
	70665967	- 2	BRAKE ASSEMBLY, left wheel (See page 153A for parts)(Graders #2000 and up)
2	70916182	- 2	CAPSCREW, 7/16"NF x 3/4" } hole plugging
	70904207	- 2	
	70644587	12 -	CAPSCREW, 7/16"NF x 1-7/8", knurled
	70644588	8 -	CAPSCREW, 7/16"NF x 2-1/4", knurled
	70643523	- 34	STUD, 7/16"NF x 2-5/16"
3	70045010	20 34	NUT, high, 7/16"NF
4	70639746	2 -	BRAKE ASSEMBLY, right wheel (See page 153 for parts)
	70643498	- 2	BRAKE ASSEMBLY, right wheel (See page 153 for parts)(Graders #596 thru #1999)
	70665968	- 2	BRAKE ASSEMBLY, right wheel (See page 153A for parts)(Graders #2000 and up)
5	70916182	- 2	CAPSCREW, 7/16"NF x 3/4" } hole plugging
	70904207	- 2	
	70644587	12 -	CAPSCREW, 7/16"NF x 1-7/8", knurled
	70644588	8 -	CAPSCREW, 7/16"NF x 2-1/4", knurled
	70643523	- 34	STUD, 7/16"NF x 2-5/16"
6	70045010	20 34	NUT, high, 7/16"NF
7	70624202	4 4	CYLINDER ASSEMBLY, brake operating(Graders prior to #1237)
	70648096	- 4	CYLINDER ASSEMBLY, brake operating(Graders #1237 thru #1999)
	70665970	- 4	CYLINDER ASSEMBLY, brake operating(Graders #2000 and up)
	70915809	8 8	CAPSCREW, 5/16"NC x 3/4"
	70904205	8 8	LOCKWASHER, 5/16"
<u>NOTE:</u> See page 151 for cylinder parts			
8	70639730	8 8	LINK, wheel cylinder (Graders prior to #2000)
	70668240	- 8	LINK, wheel cylinder (Graders #2000 and up)
9	70620367	1 -	TUBE ASSEMBLY, left rear brake (Includes 2 nuts)
	70643519	- 1	TUBE ASSEMBLY, left rear brake (Includes 2 nuts)(Graders prior to #1237)
	70650639	- 1	TUBE ASSEMBLY, left rear brake (Includes 2 nuts)(Graders #1237 and up)
10	70620368	1 -	TUBE ASSEMBLY, right rear brake (Includes 2 nuts)
	70643520	- 1	TUBE ASSEMBLY, right rear brake (Includes 2 nuts)(Graders prior to #1237)
	70650640	- 1	TUBE ASSEMBLY, right rear brake (Includes 2 nuts)(Graders #1237 and up)
11	70604769	4 4	SHIELD, brake tubes
12	70639669	1 1	BRACKET, hose supporting, left
13	70639670	1 1	BRACKET, hose supporting, right

(Continued)

WHEEL BRAKES (Continued)

ITEM	PART NO.	QTY.		DESCRIPTION
		*	**	
14	70600675	2	2	HOSE (17-1/4" long)
	70910543	2	2	LOCKWASHER, external teeth, 5/8"
	70911049	2	2	NUT, jam, 5/8"NF
15	70634515	2	2	BLOCK, hose connecting
	70903634	4	4	CAPSCREW, 3/8" NC x 2"
	70904206	4	4	LOCKWASHER, 3/8"
16	70062035	2	2	NIPPLE, hose connecting (pipe, 1/4"NPT x 3-3/4")
17	70634647	1	1	TUBE ASSEMBLY, master cylinder tube to left brake (Includes 2 nuts)
	70910161	2	2	ELBOW, flare type, 1/4" tube, 1/8"NPT male
	70901702	2	2	TEE, pipe, 1/8"NPT
18	-----	-	-	TUBE ASSEMBLY (See BRAKE CONTROL)
19	70044044	2	2	CLIP, brake tubes (17/32" bolt-hole)(Graders prior to #1067)
	70640677	2	2	CLIP, brake tubes (13/32" bolt-hole)(Graders #1067 and up)
20	70640677	8	8	CLIP, brake tubes (13/32" bolt-hole)
	70916270	8	8	CAPSCREW, 3/8"NC x 1/2"
	70904206	8	8	LOCKWASHER, 3/8"
21	70620369	1	-	TUBE ASSEMBLY, left front brake (Includes 2 nuts)
	70643521	-	1	TUBE ASSEMBLY, left front brake (Includes 2 nuts)(Graders prior to #1237)
	70650637	-	1	TUBE ASSEMBLY, left front brake (Includes 2 nuts)(Graders #1238 and up)
22	70620370	1	-	TUBE ASSEMBLY, right front brake (Includes 2 nuts)
	70643522	-	1	TUBE ASSEMBLY, right front brake (Includes 2 nuts)(Graders prior to #1237)
	70650638	-	1	TUBE ASSEMBLY, right front brake (Includes 2 nuts)(Graders #1237 and up)
23	70068479	2	2	TUBE ASSEMBLY, rear brake connecting (Each includes 2 NUTS 70913536)
	70913536	4	4	NUT, inverted flare, 1/4" tube
	70915841	2	2	TEE, inverted flare, 1/4" tube 1/8"NPT male
	70915842	2	2	ELBOW, inverted flare, 1/4"tube 1/8"NPT female

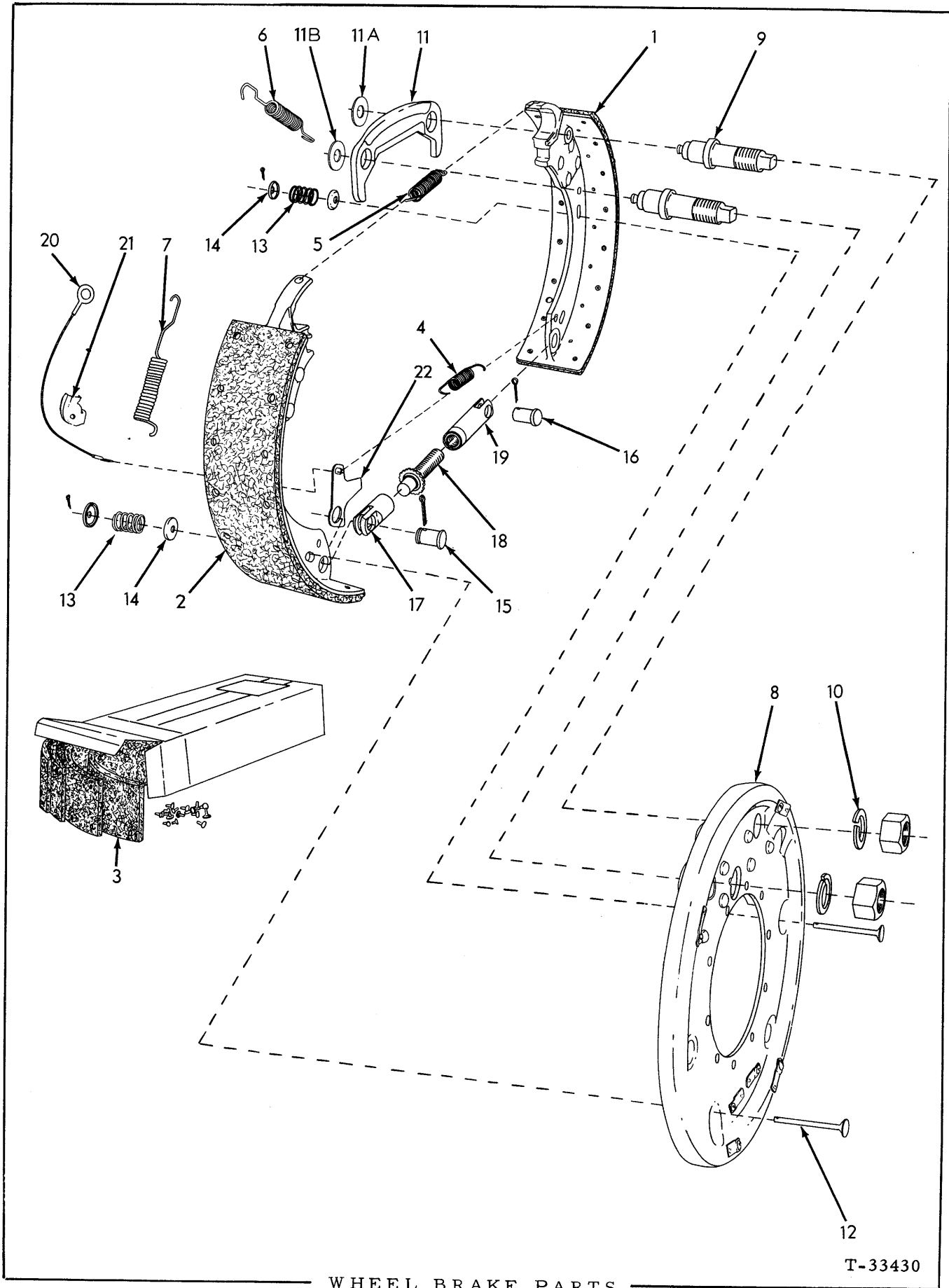


BRAKE CYLINDER PARTS

T-37227

* CYLINDER ASSEMBLY 70624202 } See page 149
 ** CYLINDER ASSEMBLY 70648096 }

ITEM	PART NO.	QTY.		DESCRIPTION
		*	**	
1	-----	1	1	CASTING, cylinder (Not serviced separately)
2	70059226	1	1	SPRING, return
3	70059234	2	2	CUP, piston
4	70059213	2	2	PISTON
5	70067502	2	2	BOOT
6	70067501	2	2	STRAP, boot retaining
7	70638413	1	1	SCREW, bleeder
8	70605453	1	-	FITTING, line connection
9	70605452	1	-	BOLT, connection fitting
10	70605451	1	-	GASKET, connection fitting bolt
11	70605450	1	1	GASKET, connection fitting
12	70648091	-	1	FITTING, line connection



WHEEL BRAKE PARTS

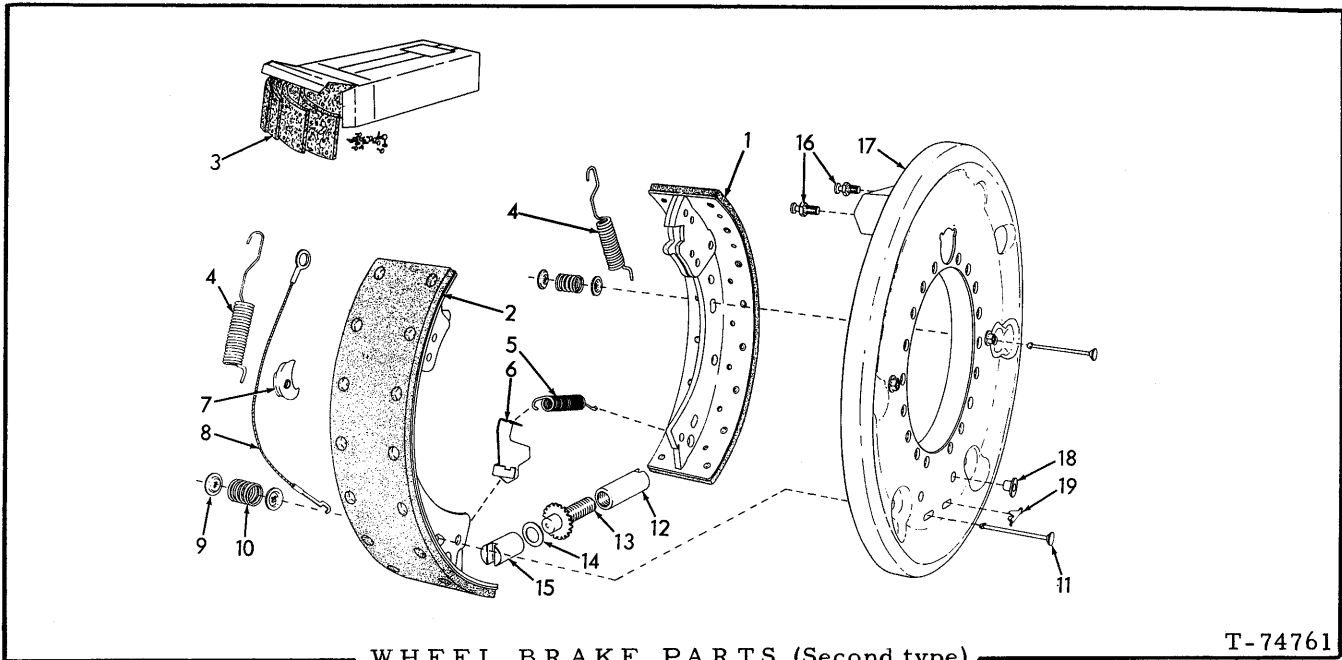
T-33430

WHEEL BRAKE PARTS

* 70639745 BRAKE ASSEMBLY, left wheel (Early units)
 * 70643497 BRAKE ASSEMBLY, left wheel (Late units)
 ** 70639746 BRAKE ASSEMBLY, right wheel (Early units)
 ** 70643498 BRAKE ASSEMBLY, right wheel (Late units) } See page 149

ITEM	PART NO.	QTY.		DESCRIPTION
		*	**	
1	70629031	1	1	SHOE ASSEMBLY, left (Includes LINING)
2	70629032	1	1	SHOE ASSEMBLY, right (Includes LINING)
3	70629054	1	1	LINING KIT (Consists of 4 linings and 70 rivets. For two (2) wheels)
4	70629025	1	1	SPRING, shoe retracting, lower
5	70067404	1	1	SPRING, shoe retracting, upper
6	70067396	1	1	SPRING, retracting, front shoe (light)
7	70067416	1	1	SPRING, retracting, rear shoe (heavy)
8	70629019	1	1	PLATE ASSEMBLY, back (Includes riveted bracket and inspection covers. Serviced only as a unit)(Used prior to grader #596)
	70644842	1	1	
	70644813	2	2	
9	70629020	2	2	PIN, anchor
10	70031558	2	2	LOCKWASHER
	70913469	2	2	NUT, 1-1/8"NF
11	70067403	1	1	PLATE, guide
11 A	70650534	1	1	WASHER, anchor pin, front shoe } Late units only
11 B	70650535	1	1	
12	70067421	4	4	PIN, shoe retaining
	70913115	4	4	
13	70067422	4	4	SPRING, shoe retaining pin (Used prior to grader #596)
	70644849	4	4	
14	70067395	8	8	CUP, shoe retaining pin spring
15	70629027	1	1	PIN, pivot, socket adjustment
	70910302	1	1	
16	70067408	1	1	PIN, pivot, nut adjustment
	70910302	1	1	
17	70629026	1	1	SOCKET, shoe adjustment screw
18	70630511	1	-	SCREW, shoe adjustment (right hand thread)
	70630512	-	1	
19	70630523	1	-	NUT, pivot, shoe adjustment (right hand thread)
	70630524	-	1	
20	70629029	1	1	CABLE ASSEMBLY, shoe adjustment (Includes terminals)
21	70629022	1	1	GUIDE, shoe adjustment cable
22	70629028	1	1	LEVER, shoe adjustment

NOTE: Quantities indicated are for one (1) of each brake only



WHEEL BRAKE PARTS (Second type)

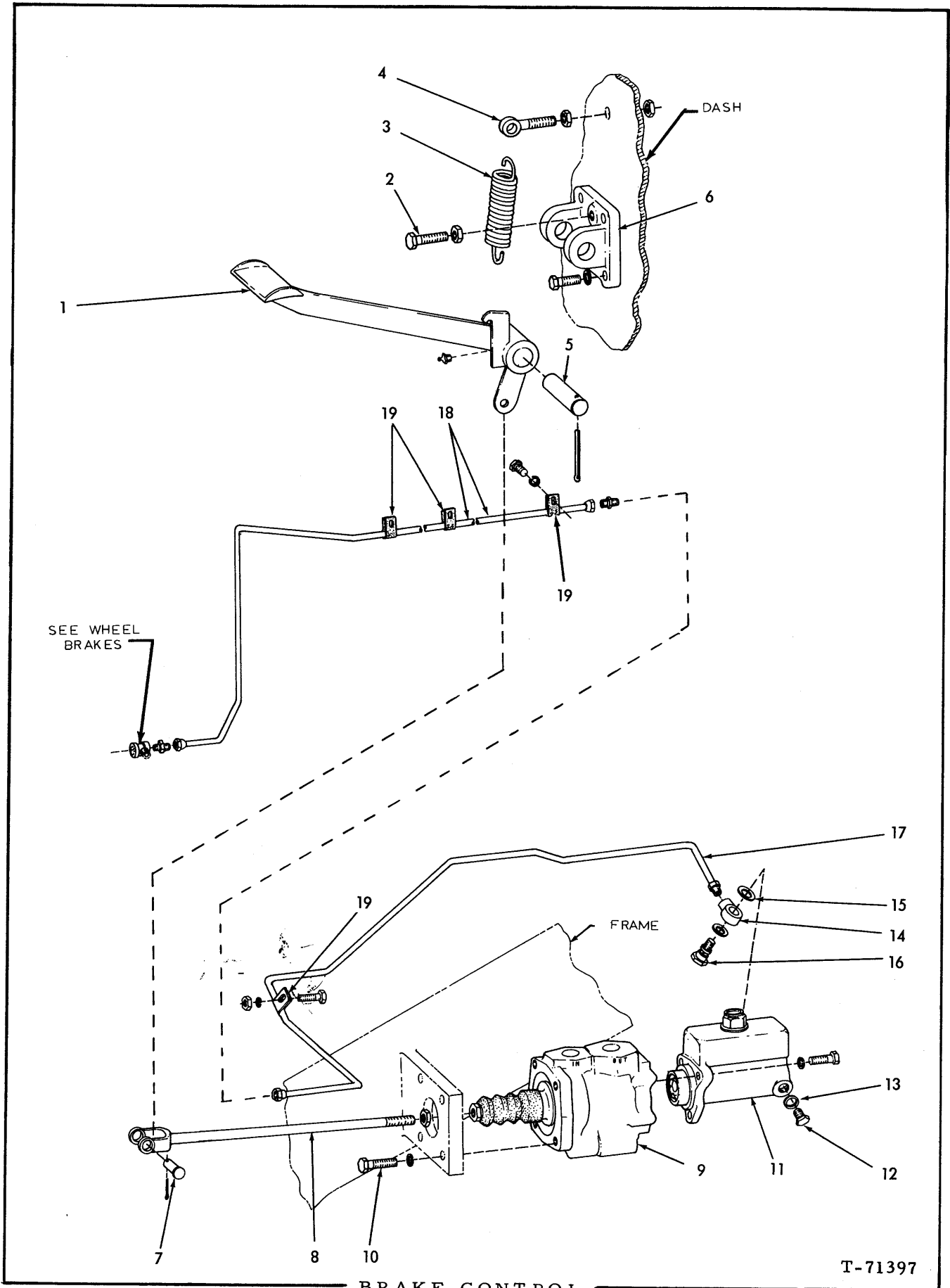
T-74761

* 70665967 BRAKE ASSEMBLY, left wheel } See page 149
 ** 70665968 BRAKE ASSEMBLY, right wheel }

ITEM	PART NO.	QTY.		DESCRIPTION
		*	**	
1	70661363	1	1	SHOE ASSEMBLY, front (Includes LINING)
2	70661364	1	1	SHOE ASSEMBLY, rear (Includes LINING)
3	70666353	1	1	LINING KIT (Consists of 4 linings and 70 rivets. For two (2) wheels)
4	70661365	2	2	SPRING, shoe retracting, upper
5	70661362	1	1	SPRING, shoe retracting, lower
6	70661367	1	-	LEVER, shoe adjustment
	70661368	-	1	LEVER, shoe adjustment
7	70661366	1	1	GUIDE, shoe adjustment cable
8	70661357	1	1	CABLE ASSEMBLY, shoe adjustment (Includes terminals)
9	70661361	8	8	CUP, shoe retaining pin spring
10	70644849	4	4	SPRING, shoe retaining pin
11	70661360	4	4	PIN, shoe retaining
12	70666207	1	-	NUT, pivot, shoe adjustment (right hand thread)
	70666208	-	1	NUT, pivot, shoe adjustment (left hand thread)
13	70666205	1	-	SCREW, shoe adjustment (right hand thread)
	70666206	-	1	SCREW, shoe adjustment (left hand thread)
14	70661370	1	1	WASHER, socket adjustment screw
15	70666068	1	1	SOCKET, shoe adjustment screw
16	70661359	2	2	PIN, spring anchor
17	70661369	1	1	PLATE ASSEMBLY, back (Includes torque spider. Serviced only as a unit)
18	70644813	2	2	COVER, back plate (rubber plug)
19	70661358	2	2	COVER, shoe adjustment hole (steel)

MEMO

153B

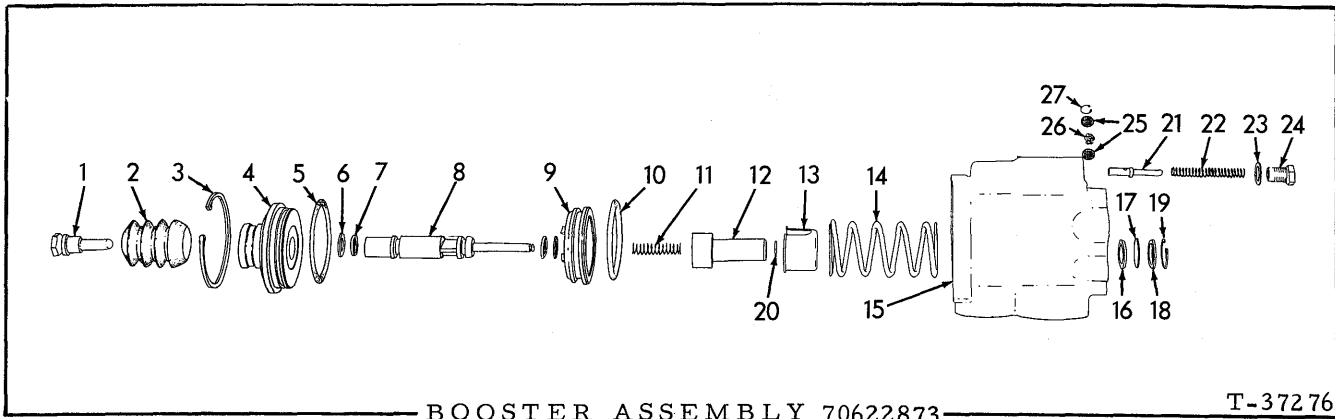


BRAKE CONTROL

T-71397

BRAKE CONTROL

ITEM	PART NO.	QTY.	DESCRIPTION
1	70622870	1	PEDAL, brake
	70914465	1	FITTING, lubricating, straight, 1/8"NPT
2	70904541	1	CAPSCREW, pedal stop (1/2"NC x 1-3/4")
	70911035	1	NUT, jam, 1/2"NC
3	70051193	1	SPRING, pedal retracting
4	70067902	1	BOLT, eye
	70913830	2	NUT, jam, 1/2"NF
5	70620995	1	SHAFT, pedal
	70910024	1	PIN, cotter, 3/16" x 2-1/2"
6	70620996	1	BRACKET, pedal mounting
	70903638	4	CAPSCREW, 1/2"NC x 1-1/4"
	70904208	4	LOCKWASHER, 1/2"
7	70049993	1	PIN, control rod
	70900805	1	PIN, cotter, 1/8" x 3/4"
8	70621709	1	ROD, control
	70913830	1	NUT, jam, 1/2"NF
9	70622873	1	BOOSTER ASSEMBLY, power brake (See page 156 for parts)
10	70040013	4	CAPSCREW, 7/16"NC x 1-3/4"
	70904207	4	LOCKWASHER, 7/16"
11	70624203	1	CYLINDER ASSEMBLY, master (See page 157 for parts)
	70903631	3	CAPSCREW, 3/8"NC x 1-1/4"
	70904206	3	LOCKWASHER, 3/8"
12	70067508	1	PLUG, master cylinder
13	70059220	2	GASKET, master cylinder
14	70059229	1	CONNECTOR, master cylinder
15	70059225	1	GASKET, connector attaching screw
16	70059224	1	SCREW, connector attaching
17	70621705	1	TUBE ASSEMBLY, master cylinder, front (Includes nuts)
18	70621717	1	TUBE ASSEMBLY, master cylinder, rear (Includes nuts)
	70917332	1	UNION, flare type, 1/4" tube
	70910141	1	CONNECTOR, flare type, 1/4" tube, 1/8"NPT male
19	70640677	4	CLIP, tube supporting
	70916270	3	CAPSCREW, 3/8"NC x 1/2"
	70903631	1	CAPSCREW, 3/8"NC x 1-1/4"
	70904206	4	LOCKWASHER, 3/8"
	70911026	1	NUT, 3/8"NC



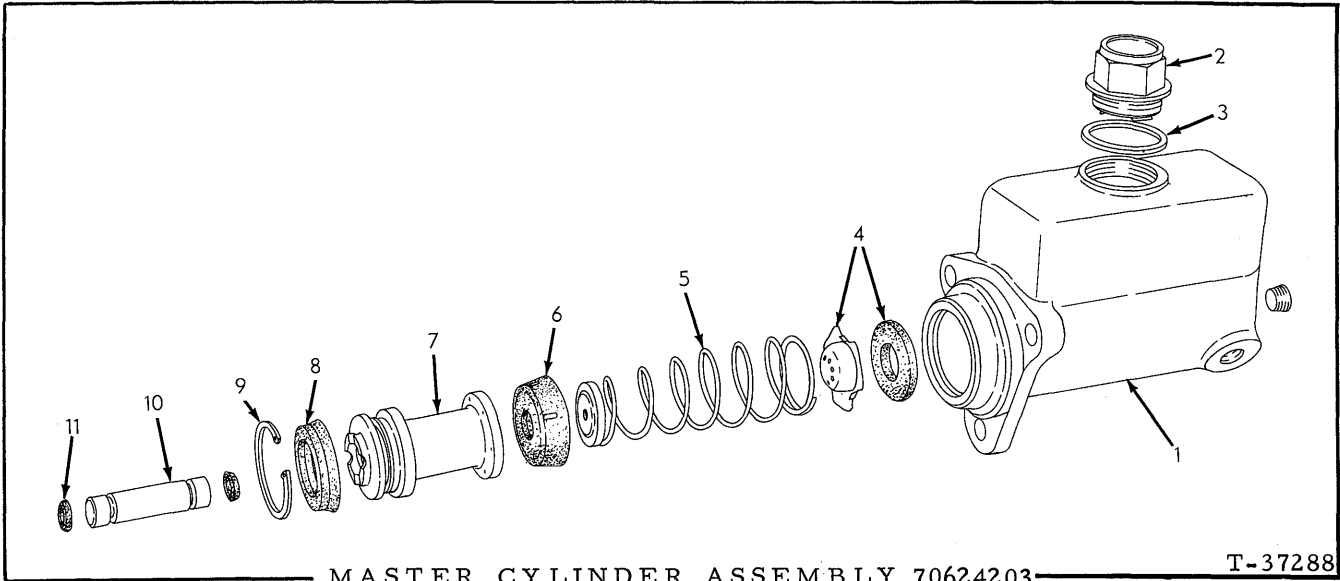
BOOSTER ASSEMBLY 70622873

T-37276

USAGE: See page 155

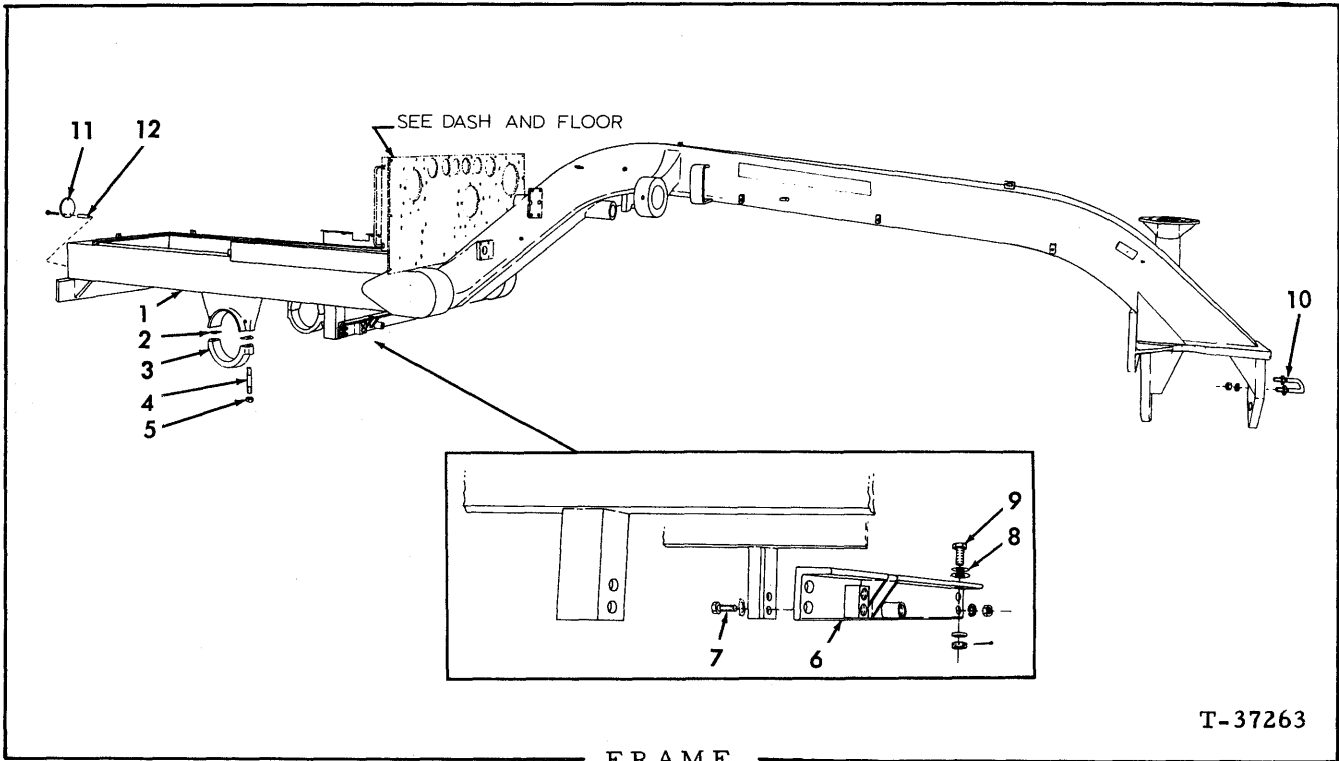
ITEM	PART NO.	QTY.	DESCRIPTION
1	70630660	1	ROD, push
2	70630661	1	□BOOT, push rod
3	70630666	1	RING, snap, end cover retaining
4	70630665	1	COVER, end
5	70630667	1	□O-RING, end cover
6	70630663	2	□WASHER, back-up, spool seal
7	70630664	2	□SEAL, oil, operating spool
8	70630662	1	SPOOL, operating
9	70638399	1	PISTON, booster
10	70638400	1	□O-RING, booster piston
11	70630672	1	SPRING, spool return
12	70638401	1	SHAFT, actuating
13	70638402	1	RETAINER, booster piston spring
14	70638403	1	SPRING, booster piston
15	-----	1	BODY (Not serviced separately)
16	70630678	1	□SEAL, oil, actuating shaft
17	70630679	1	□WASHER, back-up, actuating shaft oil seal
18	70630680	1	□SPACER, shaft oil seal
19	70630681	1	□RING, snap, shaft seal retaining
20	70630682	1	□RING, snap, actuating shaft
21	70630674	1	VALVE, relief
22	70630675	1	SPRING, relief valve
23	70630676	1	□WASHER, relief valve retainer
24	70630677	1	RETAINER, relief valve
25	-----	2	SCREEN, vent
26	-----	1	□FILLER, vent
27	-----	1	□RING, snap
28	70643022	1	REPAIR KIT (Consists of items marked □ above)(Not illustrated)

□Indicates components of items 28



USAGE: See page 155

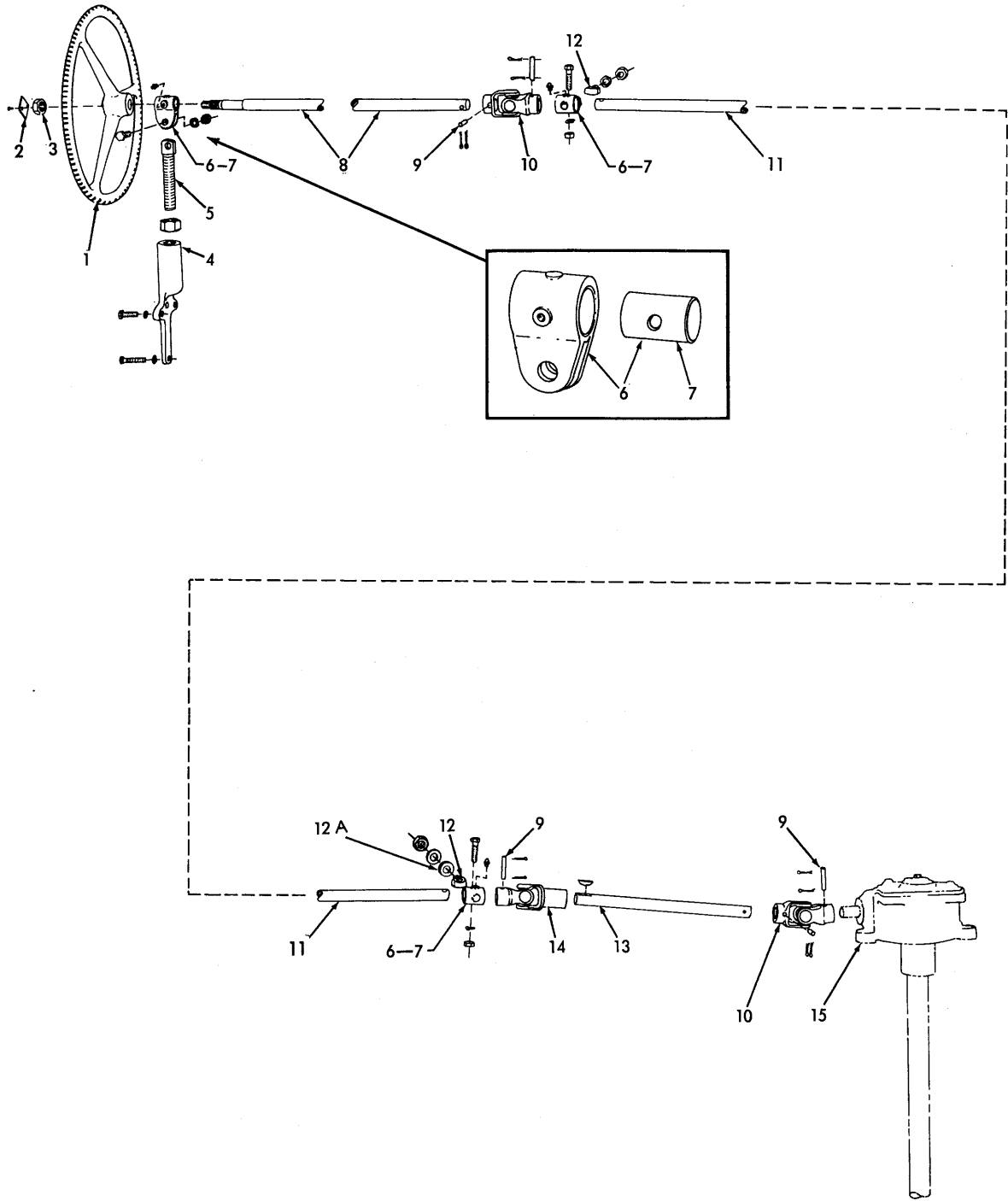
ITEM	PART NO.	QTY.	DESCRIPTION
1	----- 70910231	1 1	TANK (Not serviced separately) PLUG, pipe, hex-socket, 1/8"NPT
2	70074349	1	CAP ASSEMBLY, filler (Serviced only as a unit)
3	70076486	1	<input type="checkbox"/> GASKET, filler cap
4	70076489	1	<input type="checkbox"/> VALVE KIT (Consists of 1 valve and 1 seat)
5	70638410	1	SPRING ASSEMBLY, piston return (Includes end washer)
6	70638411	1	<input type="checkbox"/> CUP, operating piston, inner
7	70638407	1	<input type="checkbox"/> PISTON ASSEMBLY, operating (Includes item 8)
8	70638441	1	CUP, operating piston, outer
9	70638405	1	RING, snap, piston retaining
10	70638404	1	<input type="checkbox"/> PLUNGER ASSEMBLY, pressure sensing (Includes item 11)
11	70638440	2	PACKING, pressure sensing plunger
12	70643020	1	REPAIR KIT (Consists of items marked <input type="checkbox"/> above)(Not illustrated) <input type="checkbox"/> Indicates components of item 12



FRAME

ITEM	PART NO.	QTY.	DESCRIPTION
1	-----	1	FRAME ASSEMBLY (Used prior to grader #1001. Order FRAME 70646314, DRAWBAR 70648176, SHAFT 70646031, SHAFT 70646197, SHAFT 70646647, SHAFT 70646656, TUBE 70646029, and TUBE 70646030)
	70646314	1	FRAME ASSEMBLY (Includes items 2 thru 5)(Graders #1001 thru #1208)
	-----	1	FRAME ASSEMBLY (Graders #1209 thru #1313. Order FRAME 70650923 and PLATES 70650856, 70650857, 70650866, 70650877, 70650878)
	70650923	1	FRAME ASSEMBLY (Includes items 2 thru 5)(Graders #1314 thru #2188)
	70664488	1	FRAME ASSEMBLY (Includes items 2 thru 5)(Graders #2189 and up)
	70914465	1	FITTING, lubricating, straight, 1/8"NPT
	70915276	1	FITTING, lubricating, 90°, 1/8"NPT
2	70604493	24	SHIM, trunnion cap (Use as req'd)
3	70054853	2	CAP, trunnion
4	70602258	4	STUD (1" diam.)
5	70600236	4	NUT, high, 1"NF
6	70629662	1	ANGLE, transmission supporting
7	70912896	4	CAPSCREW, 3/4" NC x 2-1/4"
	70910255	4	WASHER, plain, SAE std., 3/4"
	70904369	4	LOCKWASHER, 3/4"
	70911030	4	NUT, 3/4" NC
8	70083710	4	SHIM, transmission supporting angle (.010" thick. Use as req'd)
9	70604637	2	CAPSCREW, transmission supporting angle (drilled end, 3/4"NF x 2")
	70910255	2	WASHER, plain, SAE std., 3/4"
	70912331	2	NUT, slotted, 3/4"NF
	70900807	2	PIN, cotter, 1/8" x 1-1/4"
10	70604641	1	U-BOLT, towing (Special equipment)
	70904210	2	LOCKWASHER, 1-1/4"
	70912251	2	NUT, jam, 1-1/4" NF
	70913097	2	NUT, 1-1/4" NF
11	70634148	1	COVER, tail light hole (Units without dual tail lights)
	70920534	3	SCREW, machine, rd-hd., #10-24NC x 2-1/4"
	70904203	3	LOCKWASHER, #10
	70901310	3	NUT, #10-24NC
12	70634147	3	SPACER, tail light hole cover

NOTE: See PAINTING AND MARKING for Transfers

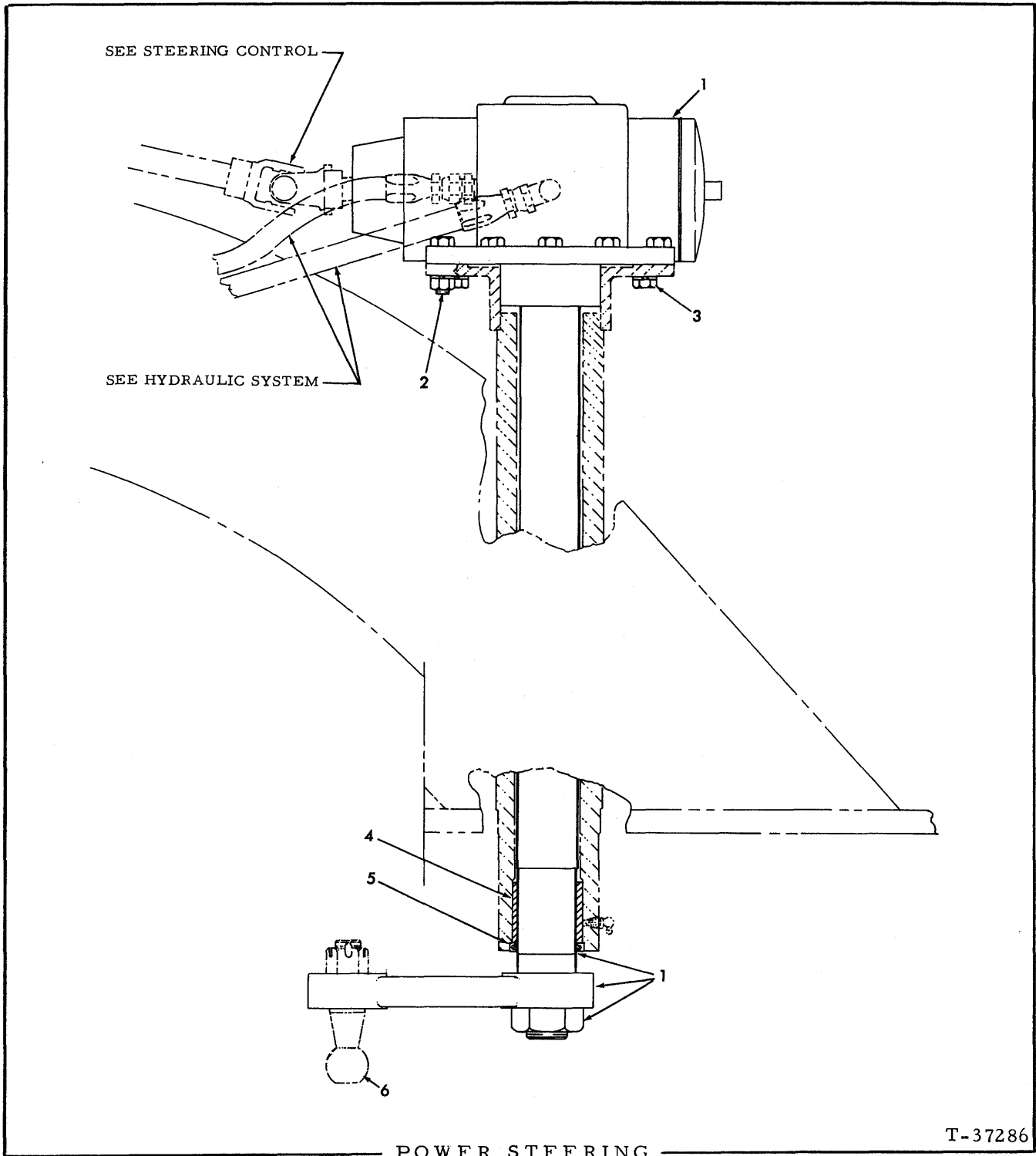


STEERING CONTROL

T-30952

STEERING CONTROL

ITEM	PART NO.	QTY.	DESCRIPTION
1	70639984	1	WHEEL, steering
2	70246724	1	EMBLEM, trademark
	70918698	2	SCREW, thread-cutting, #8 x 1/2"
3	70208584	1	NUT, steering wheel shaft
4	70085069	1	SUPPORT, steering wheel shaft
	70910245	2	CAPSCREW, 3/8"NC x 1-3/8"
	70903634	1	CAPSCREW, 3/8"NC x 2" (Also attaches control box cover)
	70904206	3	LOCKWASHER, 3/8"
5	70633987	1	BOLT, eye, steering wheel shaft bearing
	70911032	1	NUT, 1"NC
6	70624761	3	BEARING ASSEMBLY, steering wheel shaft (Includes item 7)
	70914465	1	FITTING, lubricating, straight, 1/8"NPT
	70915276	2	FITTING, lubricating, 90°, 1/8"NPT
	70904541	3	CAPSCREW, 1/2"NC x 1-3/4"
	70904208	3	LOCKWASHER, 1/2"
	70911028	3	NUT, 1/2"NC
7	70622062	3	BUSHING, steering wheel shaft bearing
8	70620043	1	SHAFT, steering wheel
9	70601935	5	PIN, universal joint (3/8" x 2")
	70900805	10	PIN, cotter, 1/8" x 3/4"
10	70053121	2	JOINT ASSEMBLY, universal (See page 232 for parts)(Used prior to grader #795. Order 70645181)
		2	JOINT ASSEMBLY, universal (See page 233 for parts)(Effective with grader #795)
11	70096404	1	SHAFT, intermediate (76-3/4" long)(Used prior to grader #1001)
		1	SHAFT, intermediate (80-3/4" long)(Effective with grader #1001)
12	70602328	2	BOLT, eye, steering control shaft bearing
	70904209	1	LOCKWASHER, 5/8"
	70911100	1	WASHER, plain, SAE std., 5/8"
	70911029	2	NUT, 5/8"NC
12A	70602448	1	WASHER, spacing, steering shaft eye-bolt
13	70096584	1	SHAFT, front
	70911273	1	KEY, #127 woodruff, 1/4" x 2-1/8"
14	70053123	1	JOINT ASSEMBLY, universal (See page 232 for parts)(Used prior to grader #1017. Order 70645159)
		1	JOINT ASSEMBLY, universal. (See page 233 for parts)(Effective with grader #1017)
15	-----	1	STEERING ASSEMBLY (See POWER STEERING)



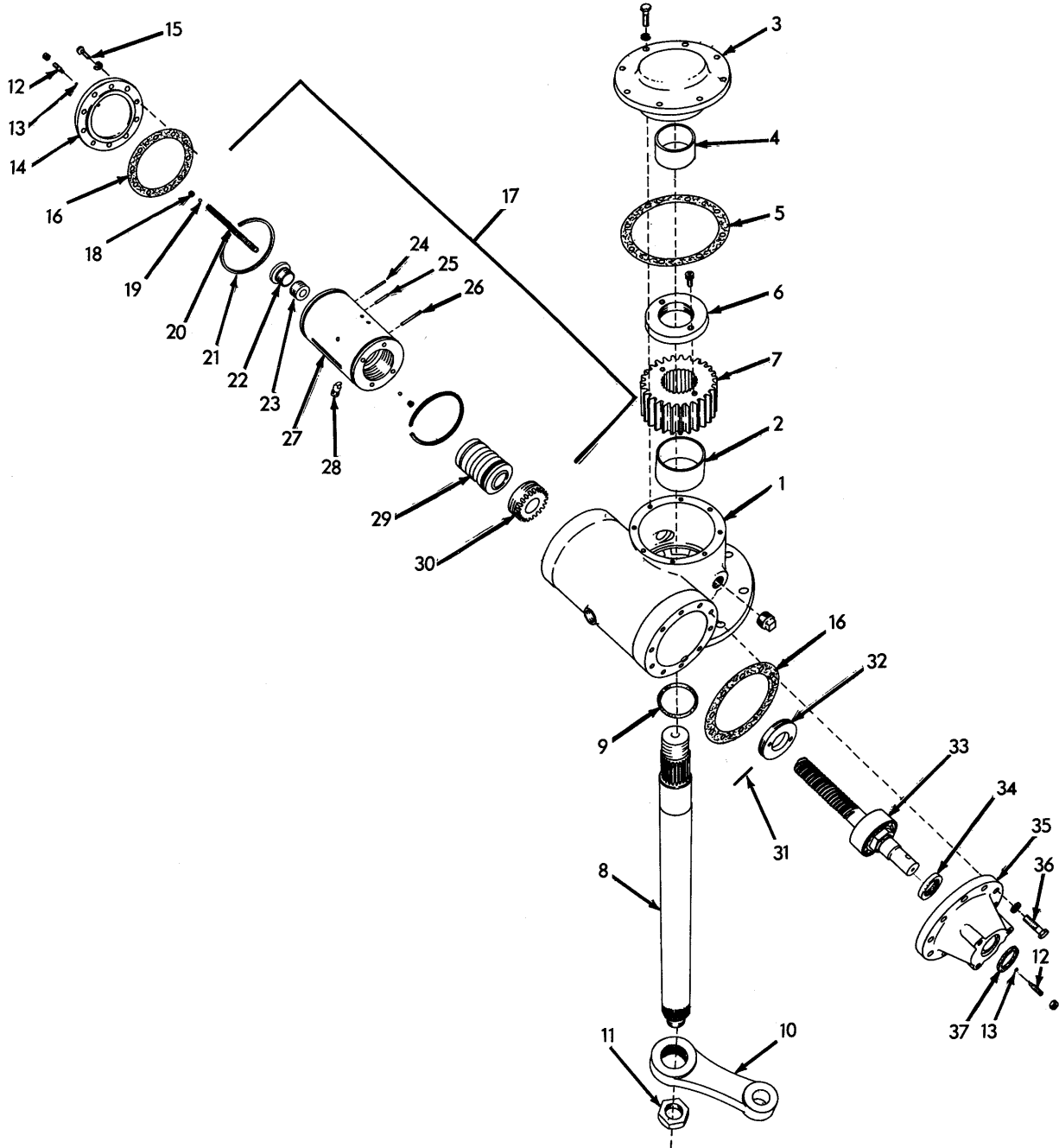
ITEM	PART NO.	QTY.	DESCRIPTION
1	70656659	1	STEERING ASSEMBLY, power (See page 165 for parts) (If for first replacement on graders prior to #1286 also order 1 BALL 70651831 and 1 NUT 70924447)
2	70915963	5	CAPSCREW, 5/8"NC x 2"
3	70915902	2	CAPSCREW, 5/8"NC x 1-3/8"
	70904209	7	LOCKWASHER, 5/8"
	70911029	5	NUT, 5/8"NC

(Continued)

(Revised May 1978)

POWER STEERING (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
4	70095380	1	BUSHING, steering gear
5	70098263	1	SEAL, steering arm shaft
6	-----	1	BALL, steering arm (See STEERING LINKAGE)



STEERING ASSEMBLY 70656659

T-37274

STEERING ASSEMBLY 70656659

USAGE: See page 162

ITEM	PART NO.	QTY.	DESCRIPTION
1	70656655	1	HOUSING ASSEMBLY (Includes items 2 and 9)
	70912726	1	PLUG, pipe, 3/4" NPT
2	70637815	1	BUSHING, housing
3	70638392	1	COVER ASSEMBLY, top (Includes item 4)
	70927239	8	CAPSCREW, 5/16" NF x 1"
	70904205	8	LOCKWASHER, 5/16"
4	70637816	1	BUSHING, top cover
5	70098335	1	GASKET, top cover
6	70638394	1	NUT, gear retaining
	70912263	2	CAPSCREW, hex-socket-hd., 5/16" NF x 3/4"
7	70098337	1	GEAR, steering arm shaft
8	70638396	1	SHAFT, steering arm
9	70638395	1	RING, sealing, steering arm shaft (3/16" thick)(Used prior to May 1966)
	70655237	1	RING, sealing, steering arm shaft (1/8" thick)(Effective May 1966)
10	70651830	1	ARM, steering (If for graders prior to #1286 also order BALL 70651831 and NUT 70924447)
11	70620677	1	NUT, steering arm retaining
12	70638388	2	PLUNGER, relief valve
	70911048	2	NUT, jam, 3/8" NF
13	70630132	2	O-RING, relief valve plunger
14	70638378	1	HEAD, housing
15	70927357	10	CAPSCREW, 3/8" NF x 1-3/8"
	70904206	10	LOCKWASHER, 3/8"
16	70638380	2	GASKET, housing
17	70661988	1	PISTON AND VALVE ASSEMBLY (Consists of items 18 thru 30)
18	70098327	2	RING, piston sealing
19	70630100	2	SEAT, relief valve plunger
20	70916537	2	BALL, relief valve (steel, 9/32" diam.)
21	70638389	1	SPRING, relief valve
22	-----	1	PLUG, piston (Order item 17)
23	-----	1	NUT, piston (Order item 17)
24	70663275	1	PIN,locking, piston plug
25	70916168	1	PIN, locking, piston nut

(Continued)

(Revised May 1978)

STEERING ASSEMBLY 656659 (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
26	70638691	1	PIN, locking, valve adjusting nut
27	-----	1	PISTON (Order item 17)
28	70098342	1	PIN, valve positioning
29	-----	1	VALVE, actuating (Order item 17)
30	-----	1	NUT, valve adjusting (Order item 17)
31	70638385	1	PIN, locking, retaining nut
32	70638384	1	NUT, retaining, actuating shaft
33	70640633	1	SHAFT ASSEMBLY, actuating (Includes bearing and nut which are not serviced separately)
34	70638386	1	SEAL, oil, actuating shaft
35	70638383	1	CAP, housing
36	70927357	10	CAPSCREW, 3/8" NF x 1- 3/8"
	70904206	10	LOCKWASHER, 3/8"
37	70638387	1	SEAL, dust, actuating shaft

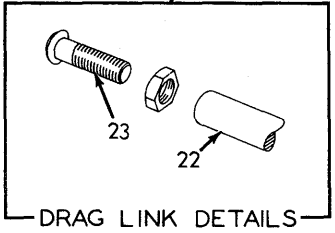
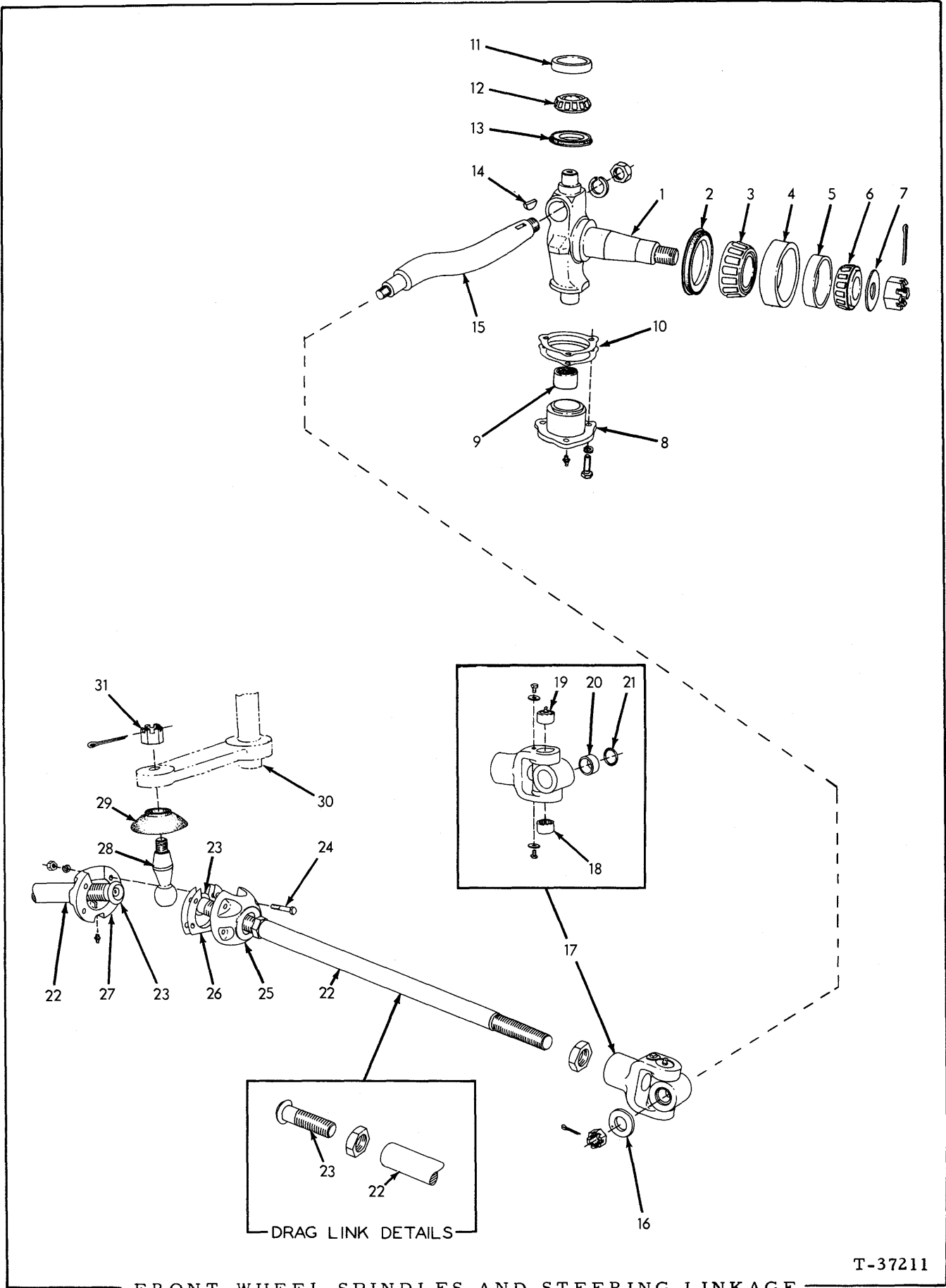
(Revised May 1978)

FRONT WHEEL SPINDLES AND STEERING LINKAGE

ITEM	PART NO.	QTY.	DESCRIPTION
1	70634569	1	SPINDLE, left wheel
	70634570	1	SPINDLE, right wheel
	70911843	2	NUT, slotted, 1-1/4"NF
	70910024	2	PIN, cotter, 3/16" x 2-1/2"
2	70604345	2	SEAL, oil, front wheel (external type)
3	70634568	2	CONE ASSEMBLY, front wheel inner bearing
4	70634567	2	CUP, front wheel inner bearing
5	70073111	2	CUP, front wheel outer bearing
6	70634571	2	CONE ASSEMBLY, front wheel outer bearing
7	70601949	2	WASHER, front wheel spindle
8	70066365	2	RETAINER, spindle needle bearing
	70914465	2	FITTING, lubricating, straight, 1/8"NPT
	70903639	6	CAPSCREW, 1/2"NC x 1-1/2"
	70904208	6	LOCKWASHER, 1/2"
9	70066362	2	BEARING, needle, front wheel spindle
10	70604292	18	SHIM, spindle lower bearing (Use as req'd)
11	70604387	2	CUP, spindle upper bearing
12	70604388	2	CONE ASSEMBLY, spindle upper bearing
13	70604343	2	SEAL, oil, front wheel spindle (external type)
14	70092954	2	KEY, spindle steering arm
15	70624287	2	ARM, steering, front wheel spindle
	70913097	2	NUT, 1-1/4"NF
	70904210	2	LOCKWASHER, 1-1/4"
	70912331	2	NUT, slotted, 3/4"NF
	70900807	2	PIN, cotter, 1/8" x 1-1/4"
16	70602068	2	WASHER, plain
17	70066627	2	SWIVEL ASSEMBLY, drag link (Each consists of 1 yoke, 1 swivel, 1 pin and items 18 thru 21)
18	70066632	2	BEARING, needle, drag link swivel yoke, lower
	70929140	2	CAPSCREW, 5/16"NC x 3/8"
	70901165	2	WASHER, plain, U. S. std., 5/16"
19	70066633	2	BEARING, needle, drag link swivel yoke, upper
	70929140	2	CAPSCREW, 5/16"NC x 3/8"
	70901165	2	WASHER, plain, U. S. std., 5/16"
20	70066631	4	BUSHING, drag link swivel
21	70053926	4	SEAL, oil, drag link swivel

(Continued)

(Revised May 1981)

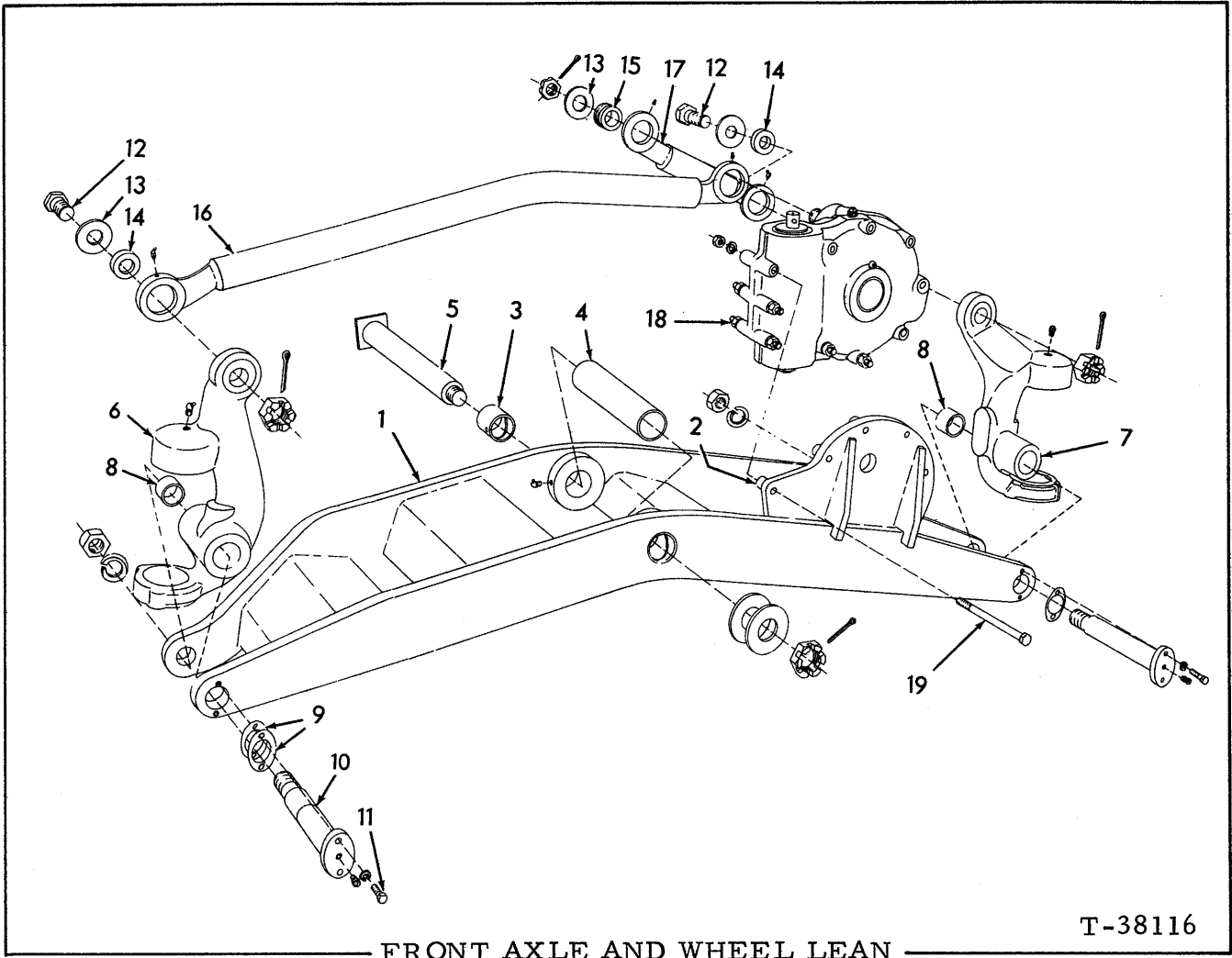


T-37211

FRONT WHEEL SPINDLES AND STEERING LINKAGE

FRONT WHEEL SPINDLES AND STEERING LINKAGE (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
22	70099203	2	LINK, drag
	70912251	2	NUT, jam, 1-1/4"NF
23	70653878	2	SOCKET, drag link
	70912251	2	NUT, jam, 1-1/4"NF
24	70046419	4	CAPSCREW, ball cap(3/8"NF x 2")
	70904206	4	LOCKWASHER, 3/8"
	70911041	4	NUT, 3/8"NF
25	70653879	1	CAP, steering arm ball
26	70604290	18	SHIM, ball cap(Use as req'd)
27	70653877	1	CAP, steering arm ball
	70914465	1	FITTING, lubricating, straight, 1/8"NPT
28	70641558	1	BALL, steering arm(Graders prior to #1286)
	70651831	1	BALL, steering arm(Graders #1286 and up)
29	70604289	1	SHIELD, steering arm ball (neoprene)
30	-----	1	STEERING ASSEMBLY (See POWER STEERING)
31	70044241	1	NUT, steering arm ball (1"NF, 1-5/16" high)(Graders prior to #1286)
	70924447	1	NUT, steering arm ball(1"NF, 1" high)(Graders #1286 and up)
	70901344	1	PIN, cotter, 1/4" x 2"



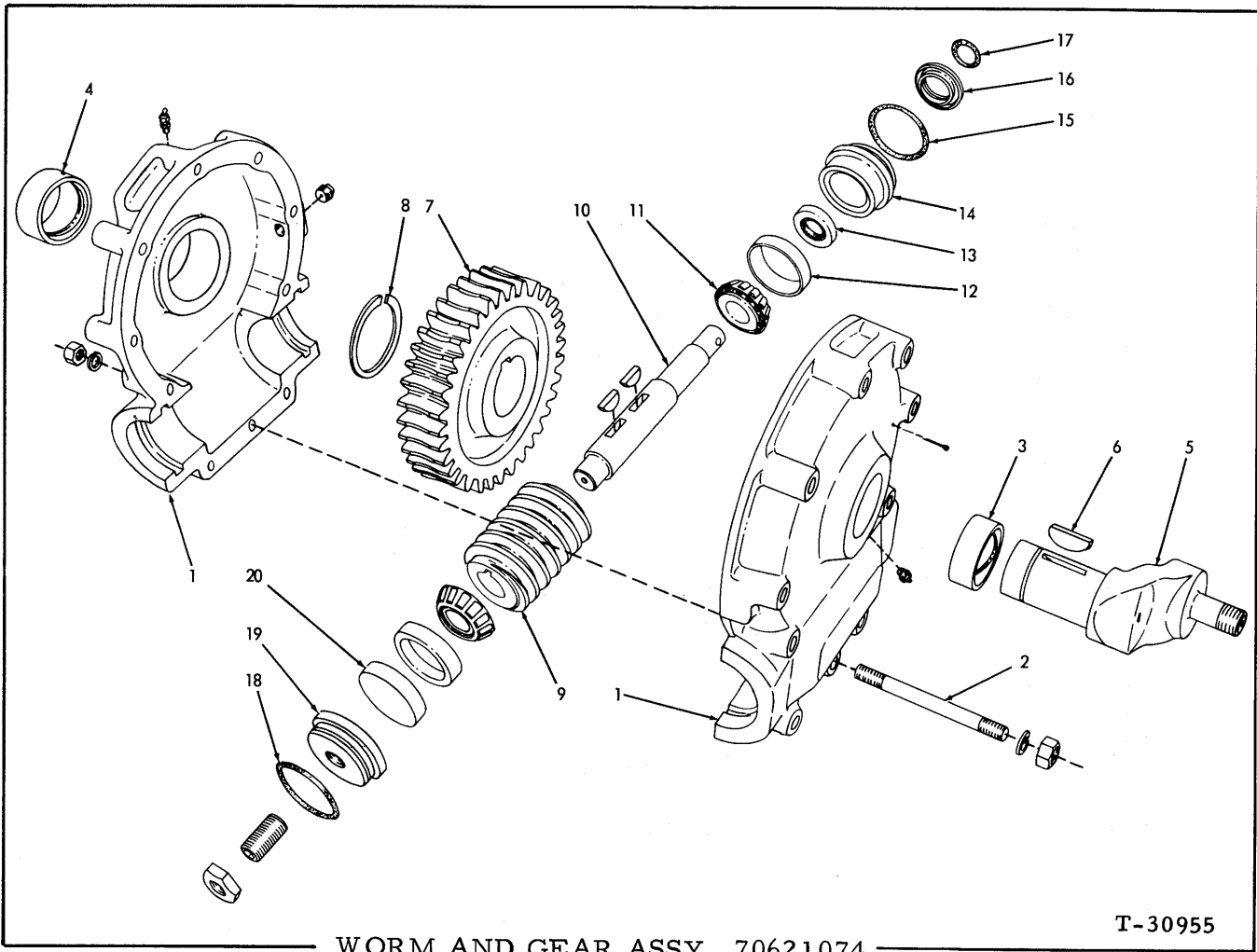
FRONT AXLE AND WHEEL LEAN

T-38116

FRONT AXLE AND WHEEL LEAN

ITEM	PART NO.	QTY.	DESCRIPTION
1	70654462	1	AXLE ASSY., front (Includes items 2 and 3)
	70915275	2	FITTING, lubricating, 65°, 1/8"NPT
2	70660928	1	BLOCK (Requires welding to install)
3	70604949	2	BUSHING, front axle pivot (2" I. D.)
4	70605438	1	SPACER, front axle pivot bushing
5	70638044	1	PIN, front axle pivot
	70900825	2	WASHER, plain, U.S. std., 1-1/2" (Use as req'd)
	70913527	1	NUT, jam, slotted, 1-1/2"NF
	70900813	1	PIN, cotter, 3/16" x 2"
6	70098965	1	KNUCKLE ASSY., front wheel lean, left (Includes item 8)
	70915274	1	FITTING, lubricating, 45°, 1/8"NPT
7	70098966	1	KNUCKLE ASSY., front wheel lean, right (Includes item 8)
	70915274	1	FITTING, lubricating, 45°, 1/8"NPT
8	70087932	4	BUSHING, front wheel lean knuckle
9	70098969	10	SHIM, knuckle pivot bolt (Use as required)
10	70098962	2	BOLT, pivot, front wheel lean knuckle
	70915274	2	FITTING, lubricating, 45°, 1/8"NPT
	70904210	2	LOCKWASHER, 1-1/4"
	70913097	2	NUT, 1-1/4"NF
11	70012992	4	CAPSCREW, pivot bolt retaining (3/8"NF x 1-1/4")
	70904206	4	LOCKWASHER, 3/8"
12	70601968	2	BOLT, wheel lean link
	70911061	2	NUT, slotted, 1-1/4"NC
	70901344	2	PIN, cotter, 1/4" x 2"
13	70054889	3	WASHER, wheel lean link bolt
14	70601966	2	SPACER, wheel lean link outer bolt
15	70099468	1	SPACER, wheel lean link inner bolt
16	70099467	1	LINK, wheel lean, long
	70912808	1	FITTING, lubricating, straight, 1/4"NF
	70918186	1	FITTING, lubricating, 45°, 1/4"NF
17	70099466	1	LINK, wheel lean, short
	70912808	1	FITTING, lubricating, straight, 1/4"NF
	70918186	1	FITTING, lubricating, 45°, 1/4"NF
18	70621074	1	WORM AND GEAR ASSY., front wheel lean (See page 173)
	70913798	1	NUT, slotted, 1-1/4"NF
	70901344	1	PIN, cotter, 1/4" x 2"
19	70622949	6	CAPSCREW, 1/2"NC x 6-1/2"
	70904208	6	LOCKWASHER, 1/2"
	70911028	6	NUT, 1/2"NC

(Revised May 1978)



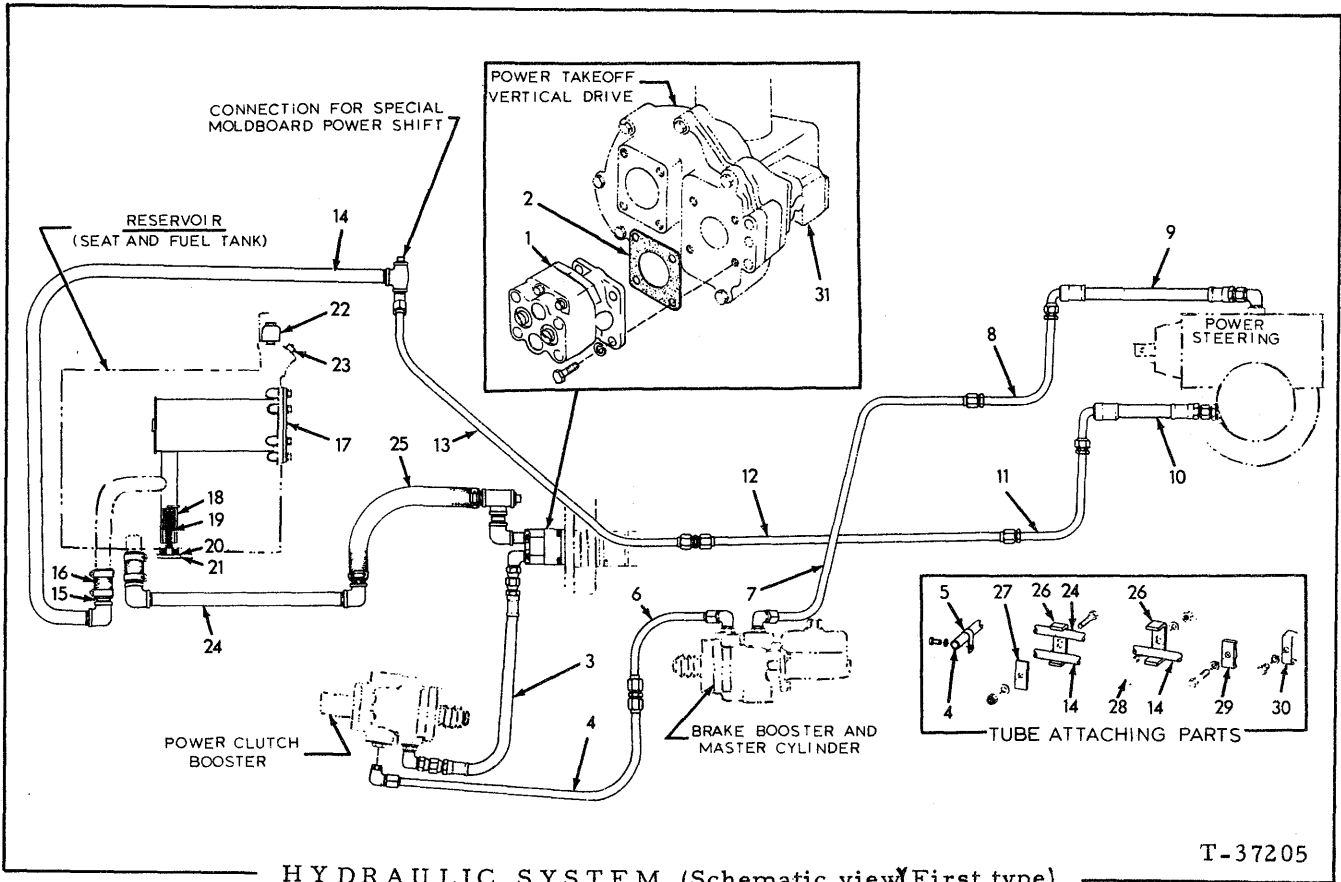
WORM AND GEAR ASSY. 70621074

T-30955

WORM AND GEAR ASSEMBLY 70621074

USAGE: See page 171

ITEM	PART NO.	QTY.	DESCRIPTION
1	70646180	1	HOUSING ASSEMBLY (Consists of 2 HOUSINGS, 5 STUDS 70602264, 10 NUTS 70911028, 10 LOCKWASHERS 70904208, 1 BUSHING 70099451, 1 BUSHING 70099452 and 1 COTTER PIN 70900805)
	70900805	1	PIN, cotter, 1/8" x 3/4" (vent hole)
	70901653	1	PLUG, pipe, 3/8"NPT
	70915273	1	FITTING, lubricating, 30°, 1/8"NPT
	70914465	1	FITTING, lubricating, straight, 1/8"NPT
2	70602264	2	STUD (1/2" diam.)
	70904208	4	LOCKWASHER, 1/2"
	70911028	4	NUT, 1/2"NC
3	70099452	1	BUSHING, gear housing, front
4	70099451	1	BUSHING, gear housing, rear
5	70099454	1	CRANK
6	70602270	1	KEY (woodruff, 5/8" x 2-7/16")
7	70630293	1	GEAR
8	70030801	1	RING, snap, gear retaining
9	70630292	1	WORM (left hand)
	70911201	2	KEY, #E woodruff, 3/8" x 1-1/4"
10	70602271	1	SHAFT, worm
11	70604388	2	CONE ASSEMBLY, worm shaft bearing
12	70604387	2	CUP, worm shaft bearing
13	70603007	1	SEAL, oil, worm shaft
14	70628657	1	CAP, worm shaft upper bearing
15	70923582	1	O-RING, upper bearing cap
16	70628656	1	RETAINER, grease, worm shaft
17	70923575	1	O-RING, worm shaft grease retainer
18	70099758	1	O-RING, lower bearing cap
19	70628680	1	CAP, worm shaft lower bearing
	70911227	1	SETSCREW, socket-hd., 1"NC x 2"
	70911038	1	NUT, jam, 1"NC
20	70602272	1	PLUG, worm shaft bearing adjustment



HYDRAULIC SYSTEM

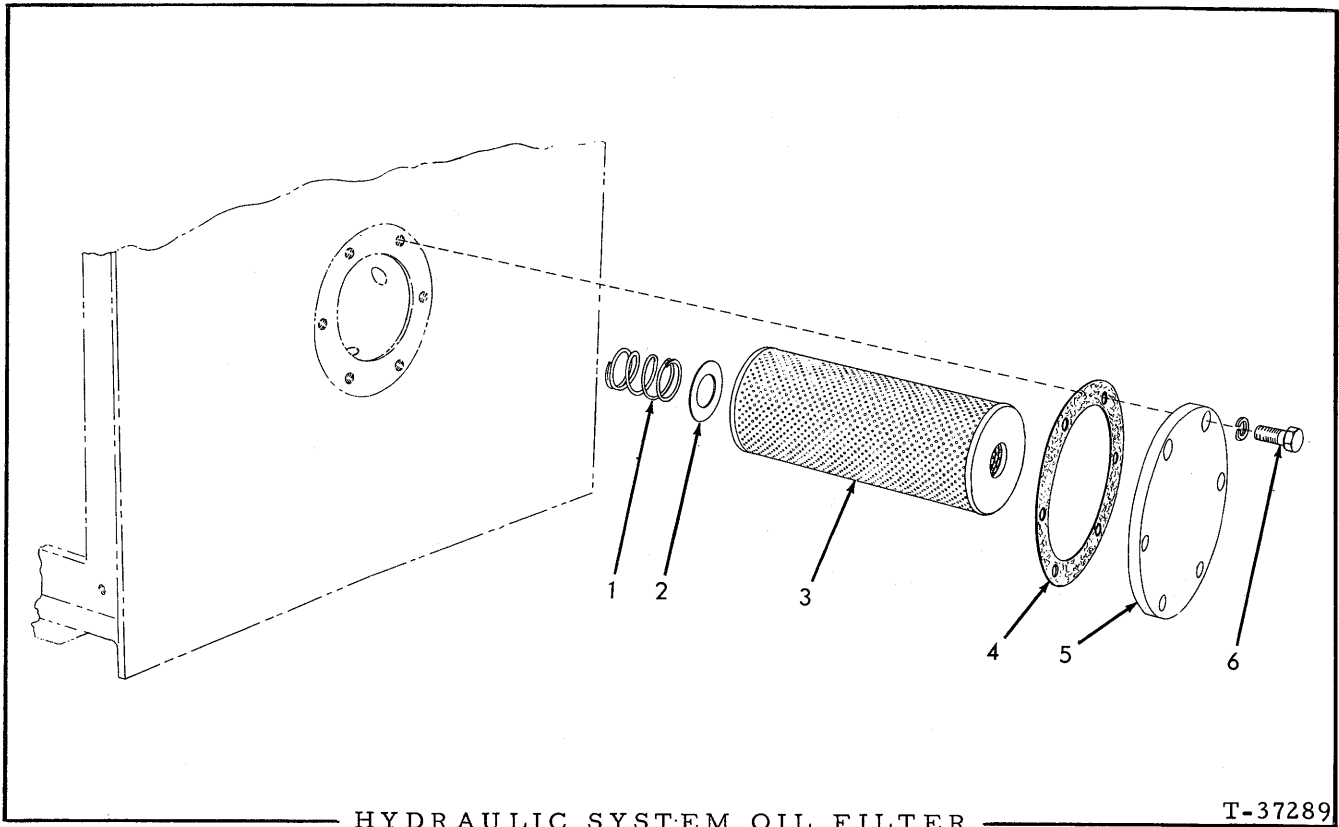
USAGE: Graders prior to serial No. 780

ITEM	PART NO.	QTY.	DESCRIPTION
1	70620675	1	PUMP ASSEMBLY, hydraulic (See page 183 for parts)
	70903626	4	CAPSCREW, 5/16"NC x 3/4"
	70904205	4	LOCKWASHER, 5/16"
2	74348184	1	GASKET, pump mounting
3	70645389	1	HOSE, pump to clutch booster (See HOSE PARTS)
	70920662	1	ELBOW, 90°, flare type, 5/8" tube, 1/2"NPT male
	70921327	1	ELBOW, adjustable, 90°, flare type, 5/8" tube, 7/8"NF (Includes washer, nut and O-RING 70921886)
4	70631303	1	TUBE ASSEMBLY, clutch booster to brake booster, rear (Includes nuts)
	70921327	1	ELBOW, adjustable, 90°, flare type, 5/8" tube, 7/8"NF (Includes washer, nut and O-RING 70921886)
5	70047381	1	CLIP, tube supporting
	70903628	1	CAPSCREW, 3/8"NC x 5/8"
	70904206	1	LOCKWASHER, 3/8"
6	70631302	1	TUBE ASSEMBLY, clutch booster to brake booster, front (Includes nuts)
	70921368	1	UNION, flare type, 5/8" tube
	70921327	1	ELBOW, adjustable, 90°, flare type, 5/8" tube, 7/8"NF (Includes washer, nut and O-RING 70921886)
7	70623370	1	TUBE ASSEMBLY, power steering oil supply, rear section (Includes nuts)
	70921327	1	ELBOW, adjustable, 90°, flare type, 5/8" tube, 7/8"NF (Includes washer, nut and O-RING 70921886)
8	70623368	1	TUBE, power steering oil supply, front section
9	70645374	1	HOSE, power steering oil supply (See HOSE PARTS)
	70920662	1	ELBOW, flare type, 5/8" tube, 1/2"NPT male
10	70645411	1	HOSE, oil return (See HOSE PARTS)
	70921030	1	CONNECTOR, flare type, 5/8" tube, 3/4"NPT male
11	70635035	1	TUBE, oil return, front section
12	70623371	1	TUBE ASSEMBLY, oil return, center section (Includes nuts)
	70921368	1	UNION, flare type, 5/8" tube
13	70623372	1	TUBE ASSEMBLY, oil return, rear section (Includes nuts)
	70920691	1	ELBOW, 45°, flare type, 5/8" tube, 1/2"NPT male
14	70623362	1	PIPE, oil return
	70904762	1	TEE, pipe reducing, 3/4"NPT to 1/2"NPT
	70912725	1	PLUG, pipe, 1/2"NPT
	70901680	1	ELBOW, pipe, 90°, 3/4"NPT
15	70623363	4	PIPE, hose adapting
16	70623359	2	HOSE, oil lines
	70921912	4	CLAMP, hose, 1-1/16" to 2" diam.
17	-----	-	FILTER, oil (See page 177 for details)

(Continued)

HYDRAULIC SYSTEM (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
18	73016398	1	PLUNGER, by-pass valve
19	73020394	1	SPRING, by-pass valve
20	70035249	1	GASKET, by-pass valve plug
21	70035250	1	PLUG, by-pass valve
22	-----	1	BREATHER, hydraulic reservoir
23	-----	1	DIPSTICK, hydraulic reservoir
			} See page 184
24	70623361	1	PIPE, oil supply
	70901680	2	ELBOW, pipe, 90°, 3/4"NPT
25	70623360	1	HOSE, oil supply line
	70921912	2	CLAMP, hose, 1-1/16" to 2" diam.
	70901706	1	TEE, pipe, 3/4"NPT
	70901511	1	NIPPLE, pipe, 3/4"NPT x 1-3/8"
	70901503	1	NIPPLE, pipe, 1/2"NPT x 2-1/2"
	70916149	1	ELBOW, pipe reducing, 3/4"NPT to 1/2"NPT
	70912726	1	PLUG, pipe, 3/4"NPT
26	70623358	3	CLAMP, pipe
	70903635	2	CAPSCREW, 3/8"NC x 2-1/2"
	70911115	2	WASHER, plain, SAE std., 3/8"
	70911026	2	NUT, 3/8"NC
27	70623357	2	BAR, pipe clamping
28	70623356	1	J-BOLT, pipe clamping
	70911115	1	WASHER, plain, SAE std., 3/8"
	70911026	1	NUT, 3/8"NC
29	70623355	3	CLAMP, tube
	70903631	3	CAPSCREW, 3/8"NC x 1-1/4"
	70904206	3	LOCKWASHER, 3/8"
30	70637696	2	CLAMP, tube
	70903628	2	CAPSCREW, 3/8"NC x 5/8"
	70904206	2	LOCKWASHER, 3/8"
31	-----	-	PUMP, hydraulic, moldboard power shift (See page 217)

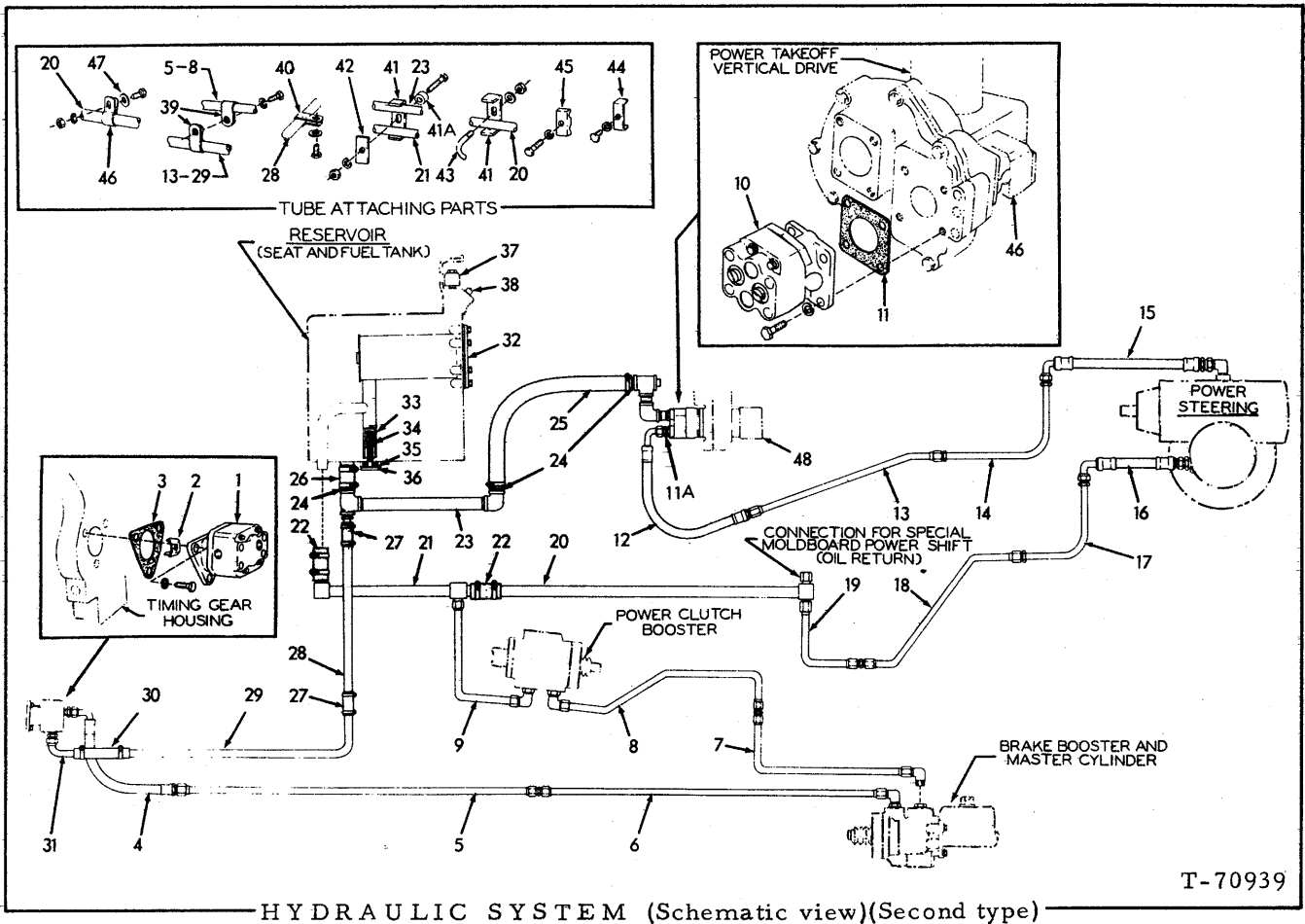


HYDRAULIC SYSTEM OIL FILTER

T-37289

USAGE: See pages 175 and 179

ITEM	PART NO.	QTY.	DESCRIPTION
1	73016399	1	SPRING, filter element
2	73016403	1	WASHER, filter element
3	70637666	1	ELEMENT KIT, hydraulic oil filter (Includes item 4)
4	70634783	1	GASKET, oil reservoir cover
5	70634785	1	COVER, oil reservoir
6	70916271	6	CAPSCREW, 3/8"NC x 1"
	70904206	6	LOCKWASHER, 3/8"



T-70939

HYDRAULIC SYSTEM

USAGE: Graders serial No. 780 and up

ITEM	PART NO.	QTY.	DESCRIPTION
1	70647730	1	PUMP ASSY., power clutch and brake booster (See page 182 for parts)(Graders prior to unit #05726)
	70675684	1	PUMP ASSY., power clutch and brake booster (See page 182 for parts)(Graders unit #05726 and up)
	70921194	3	CAPSCREW, Nylok, 5/16"NC x 7/8"
	70904205	3	LOCKWASHER, 5/16"
2	70630914	1	COUPLING, pump drive
3	74376605	1	GASKET, pump mounting
4	70647781	1	HOSE, pump to brake booster line (See HOSE PARTS)
	70919472	1	CONNECTOR, flare type, 5/8" tube, 1/2"NPT male
5	70647792	1	TUBE ASSY., pump to brake booster, rear section (Includes nuts)
	70921368	1	UNION, flare type, 5/8" tube
6	70647763	1	TUBE ASSY., pump to brake booster, front section (Includes nuts)
	70921327	1	ELBOW, adjustable, 90°, flare type, 5/8" tube, 7/8"NF (Includes washer, nut and O-RING 70921886)
7	70647748	1	TUBE ASSY., brake booster to clutch booster, front section (Includes nuts)
	70921368	1	UNION, flare type, 5/8" tube
	70921327	1	ELBOW, adjustable, 90°, flare type, 5/8" tube, 7/8"NF (Includes washer, nut and O-RING 70921886)
8	70647770	1	TUBE ASSY., brake booster to clutch booster, rear section (Includes nuts)
	70921327	1	ELBOW, adjustable, 90°, flare type, 5/8" tube, 7/8"NF (Includes washer, nut and O-RING 70921886)
9	70647765	1	TUBE ASSY., clutch booster to oil return tube (Includes nuts)
	70921327	1	ELBOW, adjustable, 90°, flare type, 5/8" tube, 7/8"NF (Includes washer, nut and O-RING 70921886)
10	70620675	1	PUMP ASSY., power steering (See page 183 for parts)(Graders prior to unit #06103)
	70675682	1	PUMP ASSY., power steering (See page 183 for parts)(Graders unit #06103 and up)
	70903626	4	CAPSCREW, 5/16"NC x 3/4"
	70904205	4	LOCKWASHER, 5/16"
11	74348184	1	GASKET, pump mounting
11A	70655106	2	FITTING, adapting
12	70647781	1	HOSE, pump to power steering (rear)(See HOSE PARTS)
	70919472	1	CONNECTOR, flare type, 5/8" tube, 1/2"NPT male
13	70647767	1	TUBE ASSY., pump to power steering, rear section (Includes nuts)
14	70623368	1	TUBE, pump to power steering, front section (Graders prior to #1001)
	70646029	1	TUBE, pump to power steering, front section (Graders #1001 and up)
15	70645374	1	HOSE, pump to power steering (front)(See HOSE PARTS)
	70920662	1	ELBOW, flare type, 5/8" tube, 1/2"NPT male
16	70645411	1	HOSE, power steering to oil return tube (See HOSE PARTS)
	70921030	1	CONNECTOR, flare type, 5/8" tube, 3/4"NPT male
17	70635035	1	TUBE, power steering to oil return tube, front section (Graders prior to #1001)
	70646030	1	TUBE, power steering to oil return tube, front section (Graders #1001 and up)

(Continued)

HYDRAULIC SYSTEM (Continued)

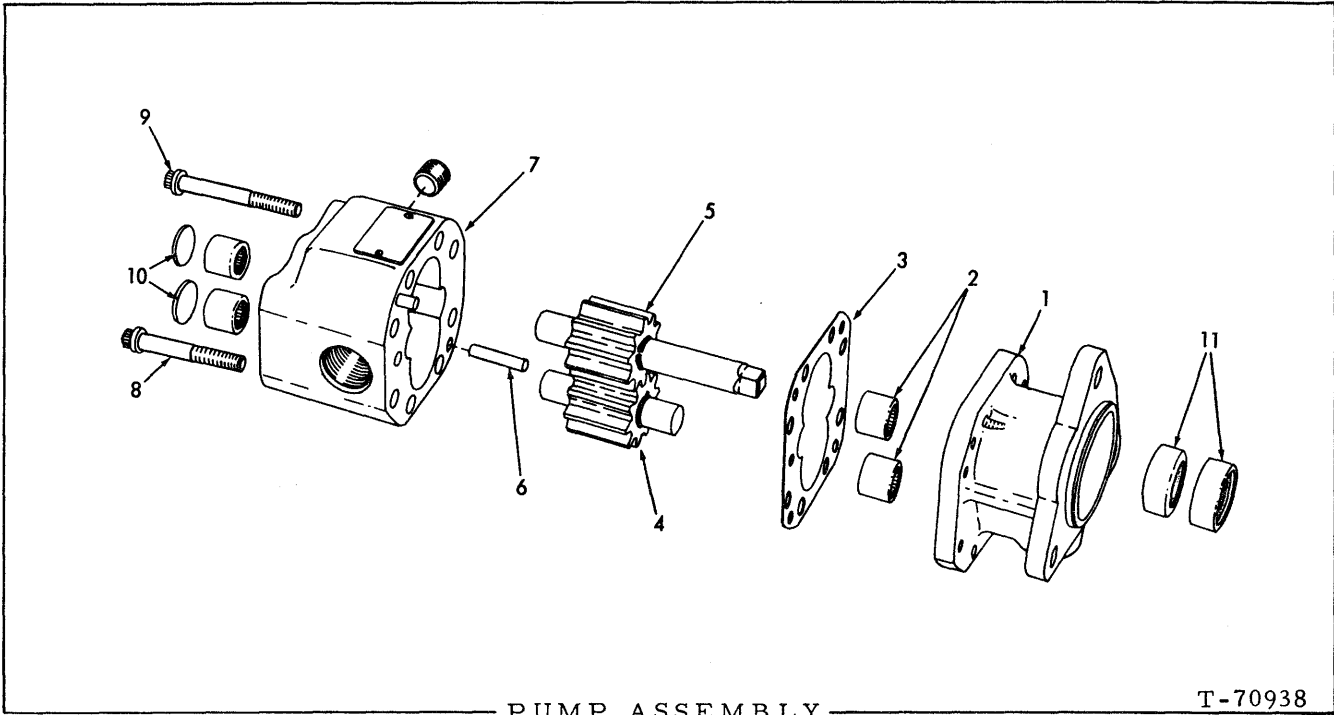
ITEM	PART NO.	QTY.	DESCRIPTION
18	70623371	1	TUBE ASSY., power steering to oil return tube, intermediate front section (Includes nuts)
	70921368	1	UNION, flare type, 5/8" tube
19	70647750	1	TUBE ASSY., power steering to oil return tube, intermediate rear section (Includes nuts)
20	70647752	1	TUBE, power steering to oil return tube, rear section
	70923737	1	CAP, flare type, 1/2" tube
21	70647747	1	TUBE, oil return
22	70647784	2	HOSE, oil return line (1" I. D. x 3")
	70921912	4	CLAMP, hose, 1-1/16" to 2" diam.
23	70623361	1	PIPE, oil supply, power steering pump
	70901680	1	ELBOW, pipe, 90°, 3/4"NPT
	70904225	1	ELBOW, pipe, side outlet, 3/4"NPT
	70904239	1	BUSHING, pipe reducing, 3/4"NPT to 3/8"NPT
	70901491	1	NIPPLE, pipe, 3/8"NPT x 2"
	70666866	1	ADAPTER, hose connecting (Graders #67S05001 and up)
24	70623363	3	PIPE, hose adapting
25	70623360	1	HOSE, oil supply, power steering pump
	70921912	2	CLAMP, hose, 1-1/16" to 2" diam.
	70901706	1	TEE, pipe, 3/4"NPT
	70901511	1	NIPPLE, pipe, 3/4"NPT x 1-3/8"
	70901503	1	NIPPLE, pipe, 1/2"NPT x 2-1/2"
	70916149	1	ELBOW, pipe reducing, 3/4"NPT to 1/2"NPT
	70912726	1	PLUG, pipe, 3/4"NPT
26	70623359	1	HOSE, oil supply line (1" I. D. x 2-3/8")
	70921912	2	CLAMP, hose, 1-1/16" to 2" diam.
27	70647783	2	HOSE, oil supply line (5/8" I. D. x 3")(Graders prior to #5001)
	70921911	4	CLAMP, hose, 11/16" to 1-1/4" diam.
	70666867	2	HOSE, oil supply line (3/4" I. D. x 3")(Graders #67S05001 and up)
	70921912	4	CLAMP, hose, 1-1/16" to 2" diam.
28	70647751	1	TUBE, oil supply, clutch and brake booster pump, front section (5/8" O. D.)(Graders prior to #5001)
	70666868	1	TUBE, oil supply, clutch and brake booster pump, front section (3/4" O. D.)(Graders #67S05001 and up)
29	70647791	1	TUBE, oil supply, clutch and brake booster pump, center section (5/8" O. D.)(Graders prior to #5001)
	70666869	1	TUBE, oil supply, clutch and brake booster pump, center section (3/4" O. D.)(Graders #67S05001 and up)
30	70644454	1	HOSE, oil supply line (5/8" I. D. x 6")(Graders prior to #5001)
	70921911	2	CLAMP, hose, 11/16" to 1-1/4" diam.
	70666870	1	HOSE, oil supply line (3/4" I. D. x 6")(Graders #67S05001 and up)
	70921912	2	CLAMP, hose, 1-1/16" to 2" diam.
31	70647766	1	TUBE ASSY., oil supply, clutch and brake booster pump, rear section (Includes sleeve)(Graders prior to #5001)
	70919613	1	NUT, flare type, 5/8" tube
	70919472	1	CONNECTOR, flare type, 5/8" tube, 1/2"NPT male
	70666871	1	TUBE ASSY., oil supply, clutch and brake booster pump, rear section (3/4" O. D. Includes sleeve)(Graders #67S05001 and up)
	70919197	1	NUT, flare type, 3/4" tube
	70919615	1	CONNECTOR, flare type, 3/4" tube, 1/2"NPT male
32	-----	-	FILTER, oil (See page 177)
33	73016398	1	PLUNGER, by-pass valve
34	73020394	1	SPRING, by-pass valve
35	70667252	1	GASKET, by-pass valve plug

(Continued)

HYDRAULIC SYSTEM (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
36	70035250	1	PLUG, by-pass valve
37	-----	1	BREATHER, hydraulic reservoir
38	-----	1	DIPSTICK, hydraulic reservoir
39	70094422	6	CLIP, tube supporting (21/32" diam., 13/32" bolt-hole)(2 additional used on graders prior to #5001)
	70055234	2	CLIP, tube supporting (3/4" diam., 13/32" bolt-hole)(Graders #67S05001 and up)
	70916268	3	CAPSCREW, 3/8"NC x 5/8"
	70904206	3	LOCKWASHER, 3/8"
40	70637741	1	CLIP, supporting, oil supply tube (5/8" diam., 9/16" bolt-hole) (Graders prior to #5001)
	70603830	1	CLIP, supporting, oil supply tube (3/4" diam., 13/32" bolt-hole) (Graders #67S05001 and up)
	70915408	1	CAPSCREW, 3/8"NC x 3/4"
	70911115	1	WASHER, plain, SAE std., 3/8"
41	70623358	2	CLAMP, oil piping
	70920275	2	CAPSCREW, 3/8"NC x 3"
	70904206	2	LOCKWASHER, 3/8"
	70911026	2	NUT, 3/8"NC
41A	70087082	2	BLOCK, clamp spacing
42	70623357	2	BAR, oil piping clamp
43	70623356	1	J-BOLT, tube supporting (Early units only)
	70911115	2	WASHER, plain, SAE std., 3/8"
	70911026	1	NUT, 3/8"NC
44	70637696	2	CLAMP, tube supporting
	70916268	2	CAPSCREW, 3/8"NC x 5/8"
	70904206	2	LOCKWASHER, 3/8"
45	70623355	3	CLAMP, tube supporting
	70916272	3	CAPSCREW, 3/8"NC x 1-1/4"
	70904206	3	LOCKWASHER, 3/8"
46	70638780	1	CLIP, tube supporting (1" diam., 17/32" bolt-hole)
	70916273	1	CAPSCREW, 3/8"NC x 1-3/4"
	70911115	1	WASHER, plain, SAE std., 3/8"
	70911026	1	NUT, 3/8"NC
47	70065461	1	BLOCK, clip spacing
48	-----	-	PUMP, hydraulic, moldboard power shift (See page 217)

} See page 184



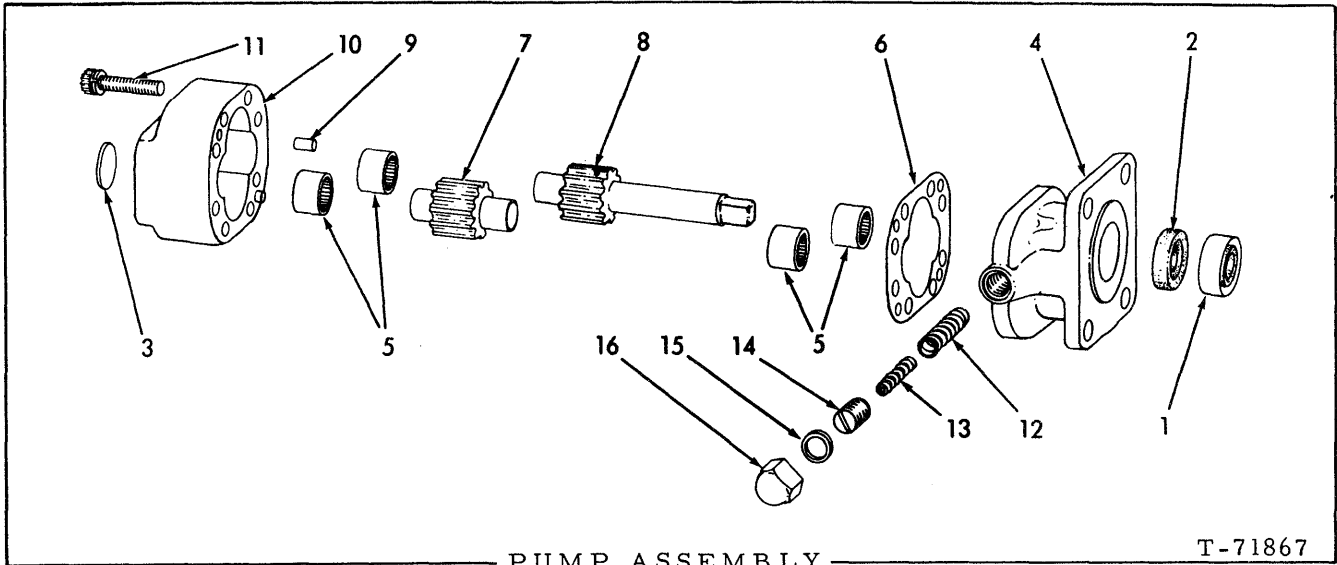
PUMP ASSEMBLY

T-70938

USAGE: See page 179

* PUMP ASSEMBLY 70647730
 ** PUMP ASSEMBLY 70675684

ITEM	PART NO.	QTY.	DESCRIPTION
		* **	
1	-----	1 1	STATOR (Not serviced separately)
2	70077241	4 4	BEARING, needle
3	70621363	1 1	GASKET, pump housing
4	{ 70098394	1 -	SHAFT ASSY., idler } Each includes gear. Serviced only as a unit
	{ 70682503	- 1	
5	{ 70623845	1 -	SHAFT ASSY., driving } Each includes gear. Serviced only as a unit.
	{ 70682504	- 1	
6	74048000	2 2	PIN, dowel, pump housing
7	-----	1 1	HOUSING, gear (Not serviced separately)
	70910231	1 1	PLUG, pipe, hex-socket, 1/8"NPT
8	70923448	4 4	CAPSCREW, 12-point hd., 1/4"NC x 1-3/4"
9	70922424	4 4	CAPSCREW, 12-point hd., 1/4"NC x 2"
	70910285	- 8	LOCKWASHER, 1/4"
10	70092107	2 -	PLUG, expansion, 11/16" diam.
11	74047783	2 2	SEAL, oil



PUMP ASSEMBLY

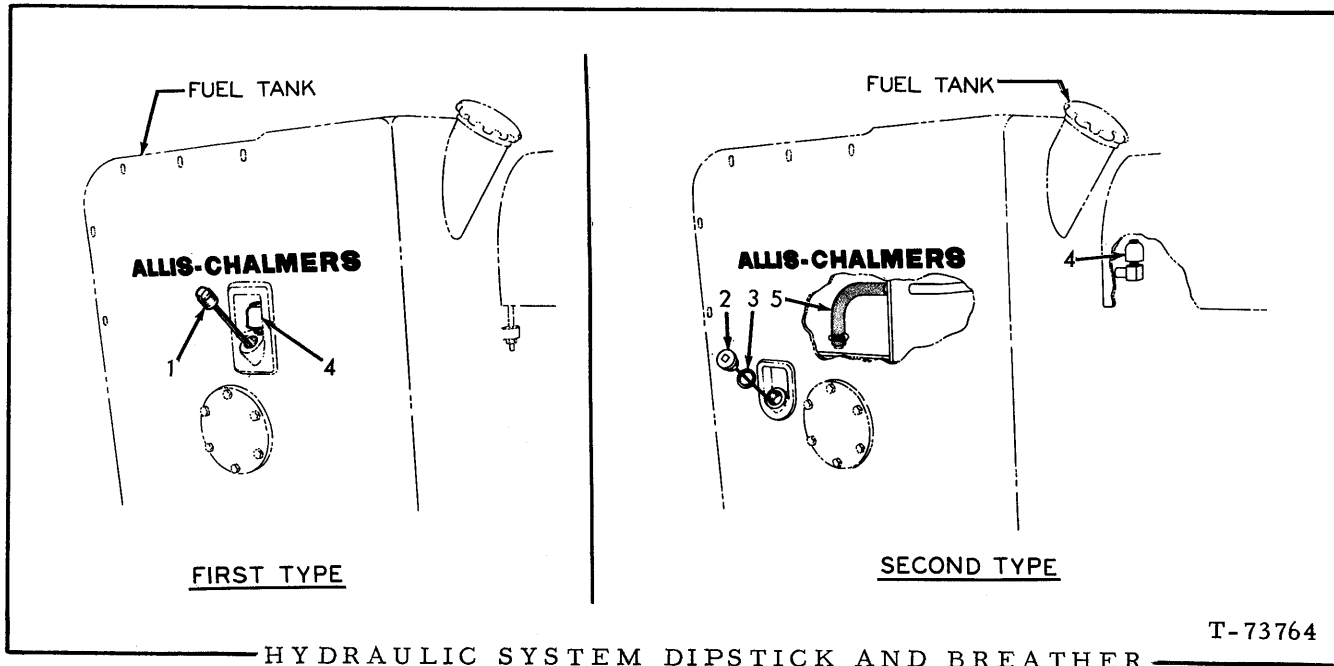
T-71867

USAGE: See pages 175 and 179

* PUMP ASSEMBLY 70620675

** PUMP ASSEMBLY 70675682

ITEM	PART NO.	QTY.	DESCRIPTION
		* **	
1	70079351	1 1	SEAL, pump shaft, outer
2	74047783	1 1	SEAL, pump shaft, inner
3	70092107	2 -	PLUG, expansion, 11/16" diam.
4	-----	1 1	STATOR (Not serviced separately)
5	70077241	4 4	BEARING, needle
6	70621363	1 1	GASKET, pump housing
7	{ 70082591 70682506	1 - - 1	SHAFT ASSY., idler } Each includes gear. Serviced only as a unit
8	{ 70082590 70682505	1 - - 1	SHAFT ASSY., driving } Each includes gear. Serviced only as a unit
9	74048000	2 2	PIN, dowel, pump housing
10	-----	1 1	HOUSING, gear (Not serviced separately)
11	{ 70077239 70923448 70922424 70910285	8 - - 4 - 4 - 8	SCREW ASSY., gear housing (Includes lockwasher) CAPSCREW, 12-point, 1/4"NC x 1-3/4" CAPSCREW, 12-point, 1/4"NC x 2" LOCKWASHER, 1/4"
12	70077240	1 1	SPRING ASSY., pressure relief (Includes ball)
13	73029933	1 1	SPRING, pressure relief (inner)
14	70077245	1 1	SCREW, pressure relief adjustment
15	74048002	1 1	GASKET, cap nut
16	70913463	1 1	NUT, pressure relief adjustment screw



HYDRAULIC SYSTEM DIPSTICK AND BREATHER

T-73764

USAGE: See pages 175 and 179

*Graders prior to serial No. 1766
 **Graders serial No. 1766 and up

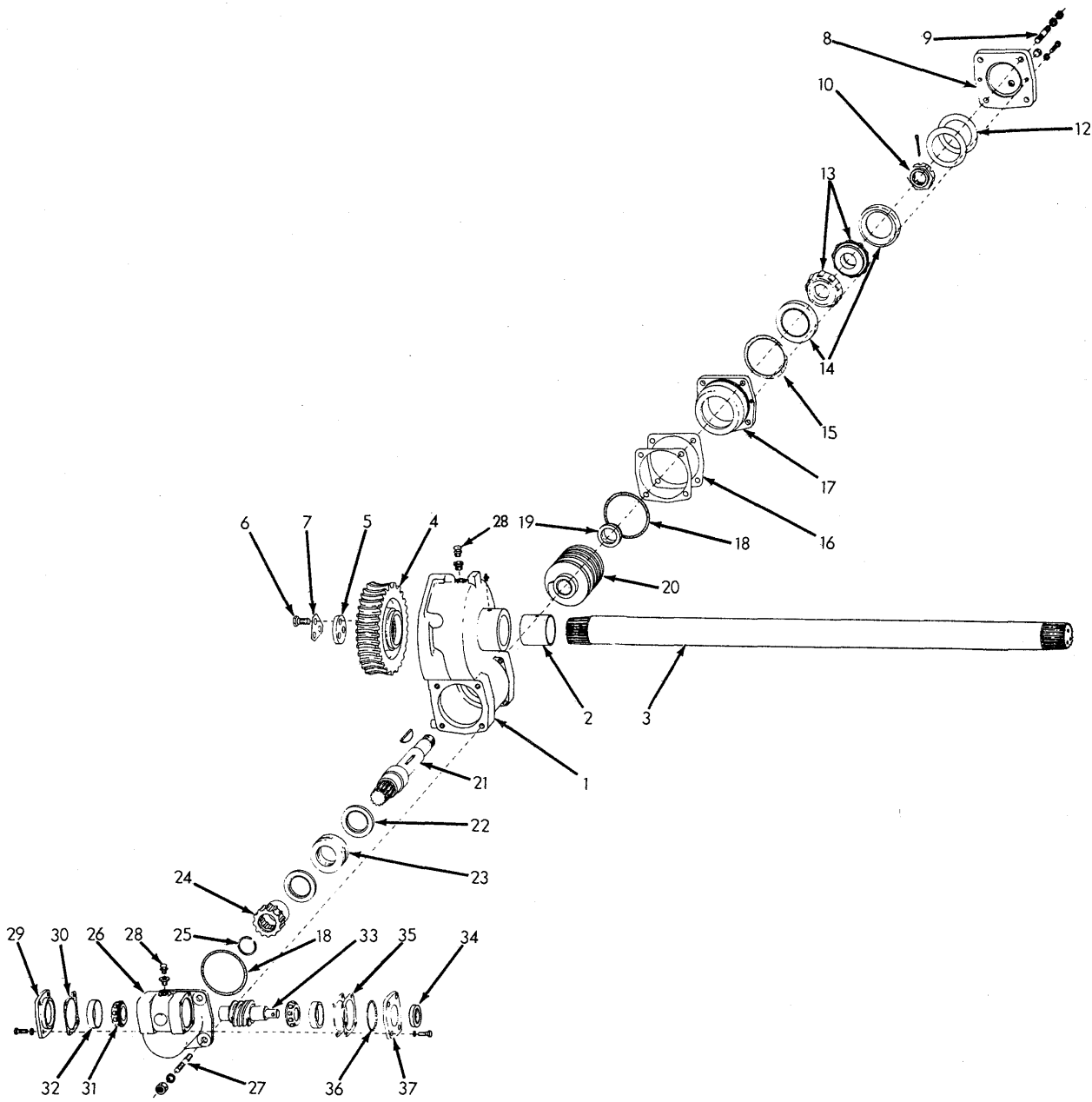
ITEM	PART NO.	QTY.		DESCRIPTION
		*	**	
1	70621153	1	-	DIPSTICK
2	70659593	-	1	DIPSTICK
3	70667252	-	1	GASKET, dipstick
4	70050748	1	1	BREATHER
5	70659733	-	1	HOSE, breather
	70921911	-	2	CLAMP, hose, 11/16" to 1-1/4" diam.

SIDE SHIFT GEAR HOUSING ASSEMBLY

USAGE: See page 189

ITEM	PART NO.	QTY.	DESCRIPTION	
1	70621641	1	HOUSING ASSEMBLY (Includes item 2)	
	70914465	1	FITTING, lubricating, straight, 1/8"NPT	
2	70622277	1	BUSHING, housing	
3	70622230	1	SHAFT, worm gear	
4	70648488	1	GEAR, worm	
5	70099154	1	WASHER, gear retaining	
6	70070469	3	CAPSCREW, 1/2"NF x 1-1/4"	
7	70099155	1	LOCK, capscrew	
8	70621644	1	CAP, worm shaft	
	70912725	1	PLUG, pipe, 1/2"NPT	
	70903632	2	CAPSCREW, 3/8"NC x 1-1/2"	
	70904206	2	LOCKWASHER, 3/8"	
9	70621647	4	STUD (5/8" diam.)	
	70904209	4	LOCKWASHER, 5/8"	
	70911044	4	NUT, 5/8"NF	
10	70649576	1	NUT, worm shaft	
	70904006	1	PIN, cotter, 3/16" x 2-3/4"	
12	70642837	2	SHIM, adjusting, left worm shaft bearing (.003" thick)	} Use as req'd.
	70629035	2	SHIM, adjusting, left worm shaft bearing (.005" thick)	
	70629034	4	SHIM, adjusting, left worm shaft bearing (.010" thick)	
13	70075142	2	CONE ASSEMBLY, worm shaft, left	
14	70075143	2	CUP, worm shaft bearing, left	
15	70923590	1	O-RING, bearing retainer (5" O.D.)	
16	70622290	2	SHIM, bearing retainer (.005" thick. Use as req'd)	
	70620872	6	SHIM, bearing retainer (.010" thick. Use as req'd)	
17	70621643	1	RETAINER, left worm shaft bearing	
18	70923823	2	O-RING, bearing retainer (5-3/8"O.D.)	
19	70621660	1	SPACER, worm	
20	70094917	1	WORM, gear driving	
	70911238	1	KEY, #U woodruff, 7/16" x 2-3/4"	
21	70621655	1	SHAFT, worm	
22	70621659	2	SPACER, right worm shaft bearing	
23	70621652	1	BEARING, worm shaft, right	
24	70630304	1	GEAR, worm (right hand)	

(Continued)

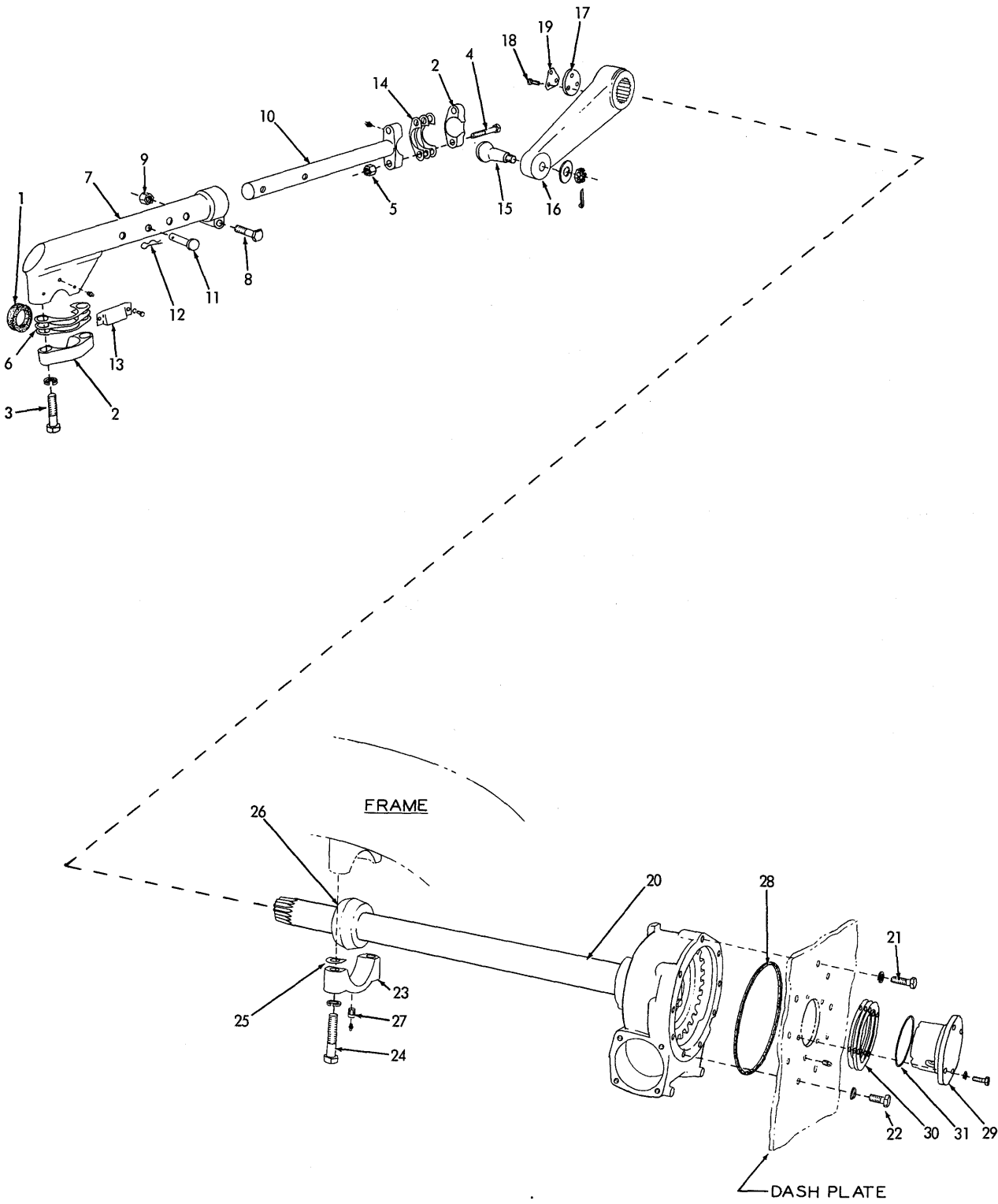


SIDE SHIFT GEAR HOUSING ASSEMBLY

T-38119

SIDE SHIFT GEAR HOUSING ASSEMBLY (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION	
25	70050293	1	RING, snap, gear retaining	
26	70621642	1	HOUSING, input drive	
27	70901652	1	PLUG, pipe, 1/4"NPT	
	70621648	4	STUD (5/8" diam.)	
	70904209	4	LOCKWASHER, 5/8"	
	70911044	4	NUT, 5/8"NF	
28	70634161	2	PLUG, vent (1/8"NPT)	
	70904269	2	BUSHING, pipe reducing, 1/2"NPT to 1/8"NPT	
29	70620760	1	CAP, worm rear bearing	
	70910211	4	CAPSCREW, 3/8"NC x 1-1/8"	
	70904206	4	LOCKWASHER, 3/8"	
30	70620609	1	GASKET, worm rear bearing cap	
31	70611769	2	CONE ASSEMBLY, worm	
32	70202573	2	CUP, worm bearing	
33	70630303	1	WORM, input (right hand)	
34	70620871	1	SEAL, input worm	
35	70642836	2	SHIM, adjusting, worm front bearing (.003" thick)	} Use as req'd.
	70642835	2	SHIM, adjusting, worm front bearing (.005" thick)	
	70620607	8	SHIM, adjusting, worm front bearing (.010" thick)	
36	70923816	1	O-RING, bearing cap	
37	70658698	1	CAP, worm front bearing	
	70910211	4	CAPSCREW, 3/8"NC x 1-1/8"	
	70904206	4	LOCKWASHER, 3/8"	

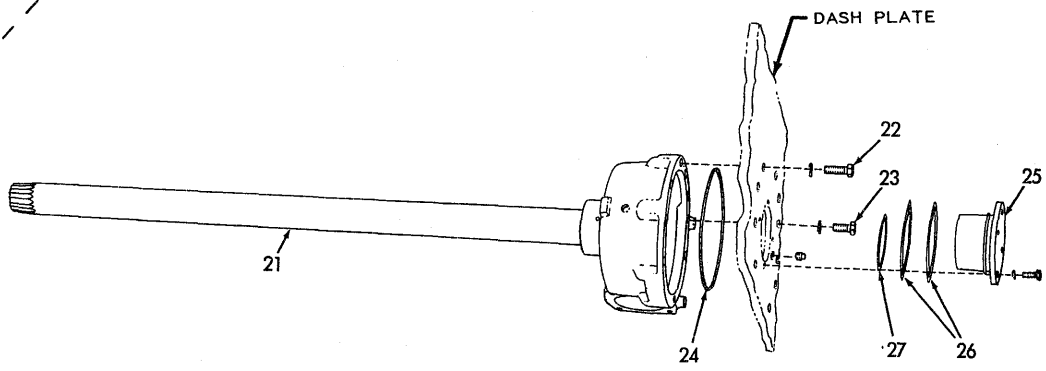
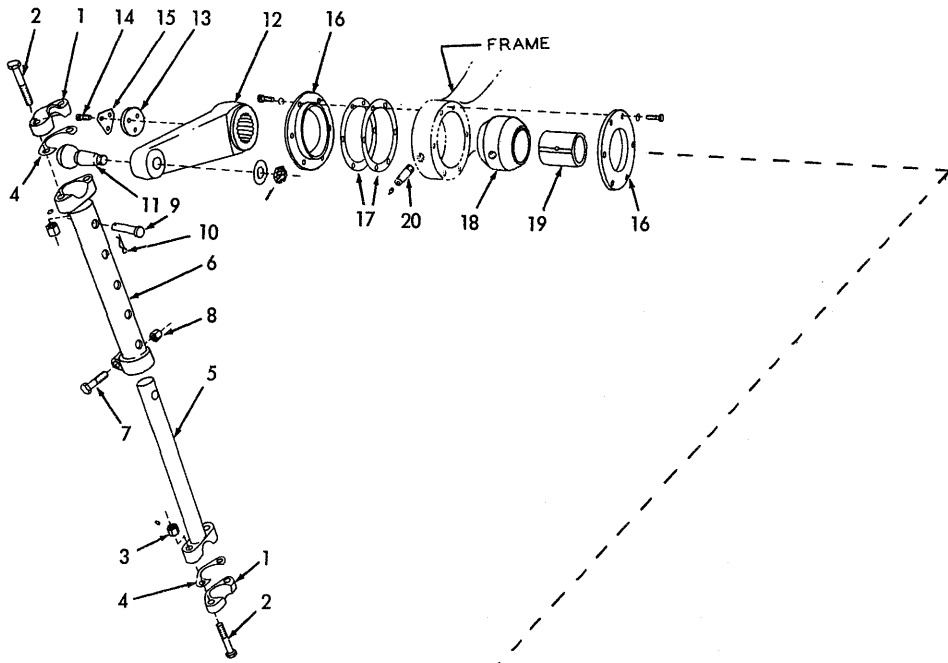


MOLDBOARD SIDE SHIFT

T-38121

MOLDBOARD SIDE SHIFT

ITEM	PART NO.	QTY.	DESCRIPTION
1	70633456	1	RING, cushioning, link rod (rubber)
2	70620479	2	CAP, socket
3	70606891	2	CAPSCREW, 3/4"NC x 2-3/4"
4	70035422	2	CAPSCREW, 3/4"NF x 4"
	70904369	2	LOCKWASHER, 3/4"
5	70012767	2	NUT, high, 3/4"NF
6	70622291	16	SHIM, socket cap (Use as req'd)
7	70620927	1	LINK, rod adjusting
	70914465	1	FITTING, lubricating, straight, 1/8"NPT
8	70070285	1	CAPSCREW, 3/4"NF x 3" } Graders prior to #2300 only
9	70012767	1	NUT, high, 3/4"NF
10	70630619	1	ROD, link
	70914465	1	FITTING, lubricating, straight, 1/8"NPT
11	70620919	1	PIN, coupling, link rod and tube
12	70617855	1	CLIP, retaining, coupling pin
13	70629021	1	COVER, socket
	70906692	2	CAPSCREW, 1/4"NC x 3/4"
	70904204	2	LOCKWASHER, 1/4"
14	70620920	8	SHIM, socket cap (Use as req'd)
15	70620794	1	BALL, coupling, crank
	70900822	1	WASHER, plain, U. S. std., 1"
	70911174	1	NUT, jam, slotted, 1"NF
	70900808	1	PIN, cotter, 1/8" x 1-1/2"
16	70620853	1	CRANK
17	70099154	1	WASHER, crank retaining
18	70070469	3	CAPSCREW, 1/2"NF x 1-1/4"
19	70099155	1	LOCK, capscrew
20	-----	1	HOUSING ASSEMBLY (See page 185)
21	70013238	6	CAPSCREW, 3/4"NC x 2"
22	70919918	2	CAPSCREW, Nylok, 3/4"NC x 1-1/2"
	70904369	8	LOCKWASHER, 3/4"
23	70078275	1	CAP, bearing
24	70098265	2	CAPSCREW, 1"NF x 4-3/4"
	70910916	2	LOCKWASHER, 1"
25	{ 70075150	6	SHIM, bearing cap (1/32" thick. Use as req'd)
	70075151	10	SHIM, bearing cap (.012" thick. Use as req'd)
26	70075234	1	BEARING, shaft
27	70605307	1	NIPPLE, anchor, shaft bearing
	70914465	1	FITTING, lubricating, straight, 1/8"NPT
28	70633336	1	SEAL, gear and housing assembly (rubber)
29	70648209	1	CAP, thrust, worm gear
	70901653	1	PLUG, pipe, hex-socket, 3/8"NPT (Installed in dash plate starting with grader #1062)
	70903638	4	CAPSCREW, 1/2"NC x 1-1/4"
	70904208	4	LOCKWASHER, 1/2"
30	{ 70651468	5	SHIM, thrust cap (.002" thick)
	70623343	2	SHIM, thrust cap (.005" thick)
	70623342	9	SHIM, thrust cap (.010" thick)
31	70923590	1	O-RING, worm gear thrust cap

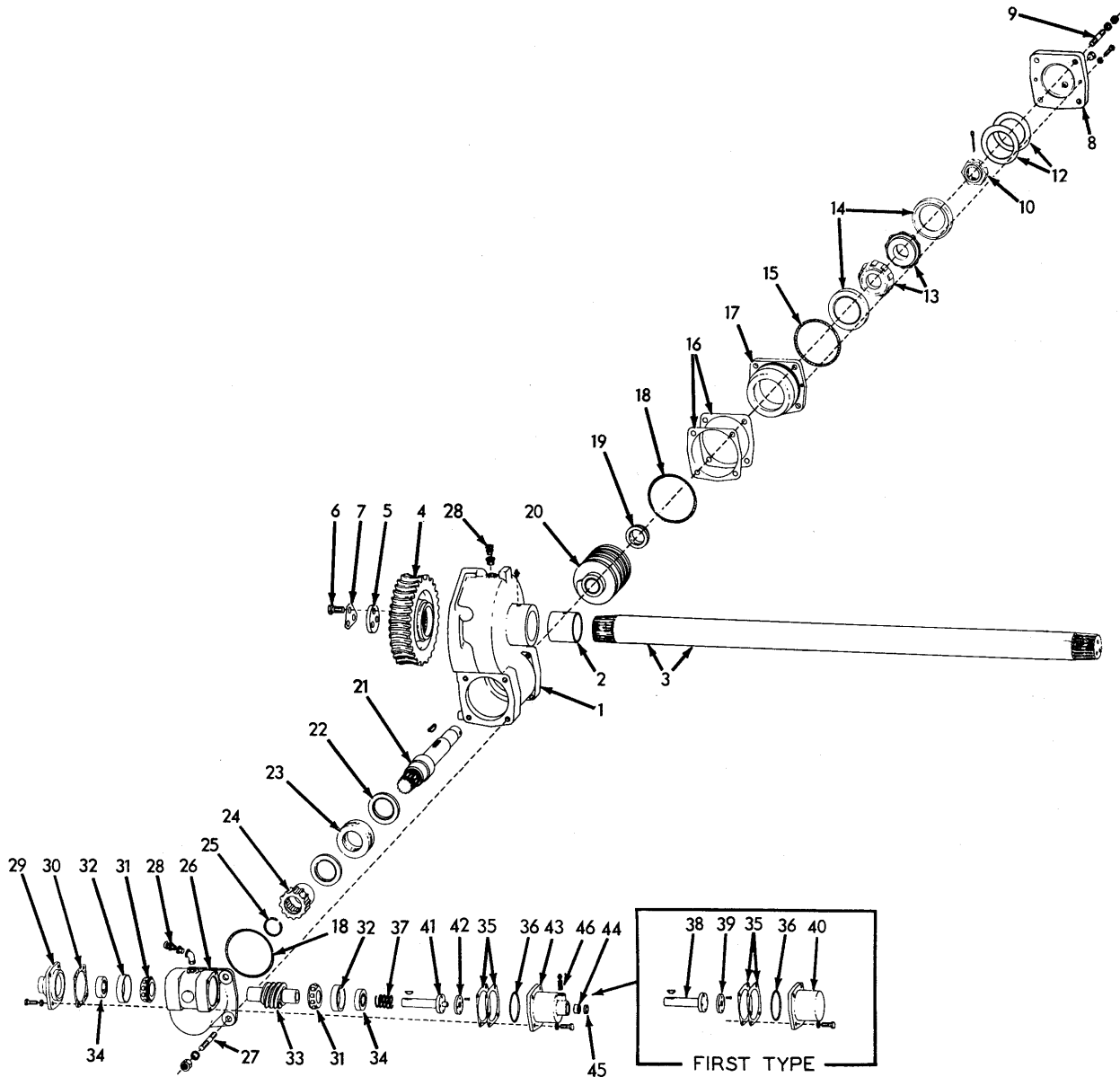


MOLDBOARD LIFT

T-37259

MOLDBOARD LIFT

ITEM	PART NO.	QTY.	DESCRIPTION
1	70620479	4	CAP, socket
2	70035422	8	CAPSCREW, 3/4"NF x 4"
3	70012767	8	NUT, high, 3/4"NF
4	70620920	32	SHIM, socket cap (Use as req'd)
5	70099987	2	ROD, link (21-7/8" long)(Graders prior to #1001)
	70643325	2	ROD, link (23-3/4" long)(Graders #1001 and up)
	70915276	2	FITTING, lubricating, 90°, 1/8"NPT
6	70620923	2	LINK, rod adjusting (21-3/4" long)(Graders prior to #1001)
	70644319	2	LINK, rod adjusting (24-7/8" long)(Graders #1001 and up)
	70914465	2	FITTING, lubricating, straight, 1/8"NPT
7	70070285	2	CAPSCREW, 3/4"NF x 3"
8	70012767	2	NUT, high, 3/4"NF
9	70620919	2	PIN, coupling, adjusting link and rod
10	70617855	2	CLIP, retaining, coupling pin
11	70620794	2	BALL, lift crank
	70900822	2	WASHER, plain, U. S. std., 1"
	70911174	2	NUT, jam, slotted, 1"NF
	70900808	2	PIN, cotter, 1/8" x 1-1/2"
12	70099153	2	CRANK, lift (13" long)(Graders prior to #1001)
	70643090	2	CRANK, lift (14" long)(Graders #1001 and up)
13	70099154	2	WASHER, crank retaining
14	70070469	6	CAPSCREW, 1/2"NF x 1-1/4"
15	70099155	2	LOCK, capscrew
16	70648346	4	CAP, bearing
	70915666	24	CAPSCREW, 1/2"NC x 1-3/8"
	70904208	24	LOCKWASHER, 1/2"
17	70620801	6	SHIM, bearing cap (.005" thick. Use as req'd)
	70620800	12	SHIM, bearing cap (.010" thick. Use as req'd)
18	70620798	2	BEARING ASSEMBLY, worm gear shaft (Includes item 19)
19	70620797	2	BUSHING, worm gear shaft bearing
20	70650174	2	ADAPTER, lubricating fitting
	70914465	2	FITTING, lubricating, straight, 1/8"NPT
21	-----	2	HOUSING ASSEMBLY (See page 193)
22	70013238	14	CAPSCREW, 3/4"NC x 2"
23	70919918	4	CAPSCREW, Nylok, 3/4"NC x 1-1/2"
	70904369	18	LOCKWASHER, 3/4"
24	70633336	2	SEAL, gear and housing assembly (rubber)
25	70649547	2	CAP, thrust, worm gear
	70901653	2	PLUG, pipe, 3/8"NPT(Installed in dash plate starting with grader #1033)
	70903638	8	CAPSCREW, 1/2"NC x 1-1/4"
	70904208	8	LOCKWASHER, 1/2"
26	70651468	10	SHIM, thrust cap(.002" thick)
	70623343	4	SHIM, thrust cap(.005" thick)
	70623342	18	SHIM, thrust cap(.010" thick)
			} Use as required
27	70923590	2	O-RING, worm gear thrust cap



MOLDBOARD LIFT GEAR HOUSING ASSEMBLY

T-38120

MOLDBOARD LIFT GEAR HOUSING ASSEMBLY

USAGE: See page 191

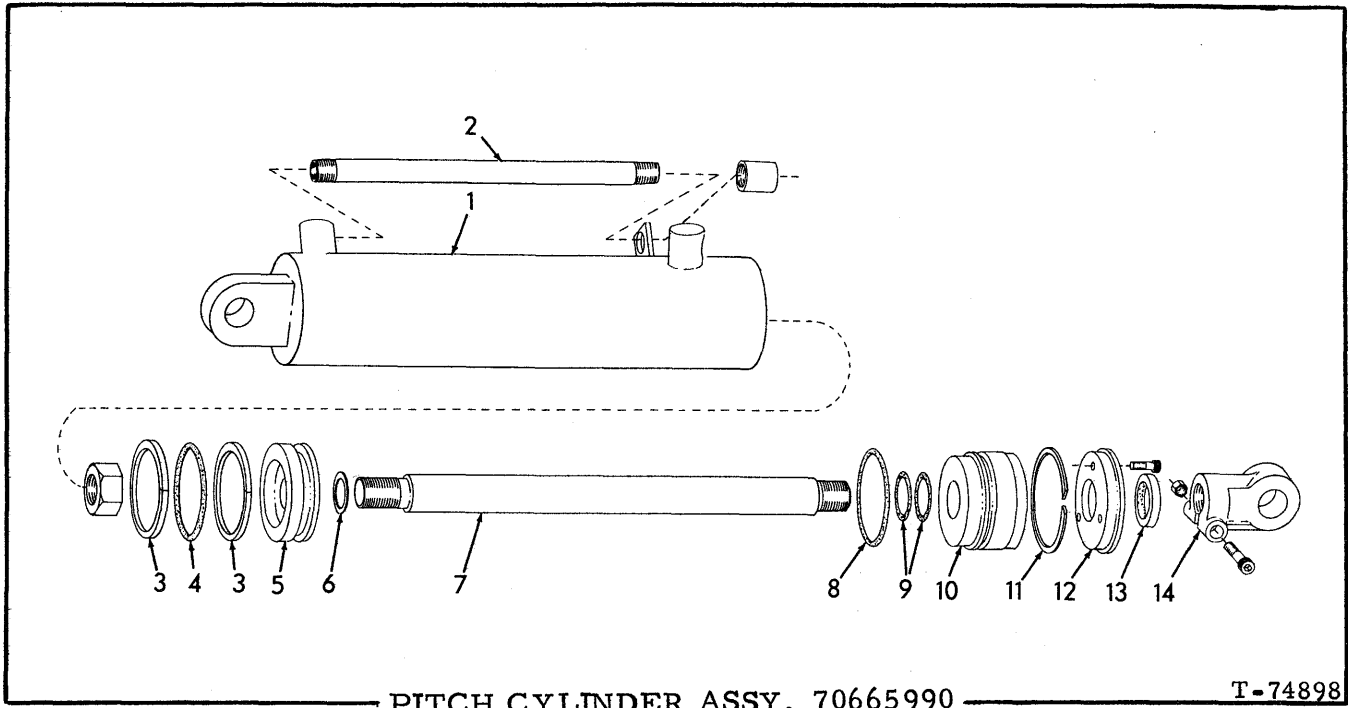
ITEM	PART NO.	QTY.	DESCRIPTION
1	70621641	2	HOUSING ASSEMBLY (Includes item 2)
	70914465	2	FITTING, lubricating, straight, 1/8"NPT
2	70622277	2	BUSHING, housing
3	70622253	2	SHAFT, worm gear
4	70648488	2	GEAR, worm
5	70099154	2	WASHER, gear retaining
6	70070469	6	CAPSCREW, 1/2"NF x 1-1/4"
7	70099155	2	LOCK, capscrew
8	70621644	2	CAP, worm shaft
	70912725	2	PLUG, pipe, 1/2"NPT
	70903631	4	CAPSCREW, 3/8"NC x 1-1/4"
	70904206	4	LOCKWASHER, 3/8"
9	70621647	8	STUD (5/8" diam.)
	70904209	8	LOCKWASHER, 5/8"
	70911044	8	NUT, 5/8"NF
10	70649576	2	NUT, worm shaft
	70904006	2	PIN, cotter, 3/16" x 2-3/4"
12	70642837	4	SHIM, adjusting, left worm shaft bearing (.003" thick)
	70629035	4	SHIM, adjusting, left worm shaft bearing (.005" thick)
	70629034	8	SHIM, adjusting, left worm shaft bearing (.010" thick)
			} Use as required
13	70075142	4	CONE ASSEMBLY, worm shaft, left
14	70075143	4	CUP, worm shaft bearing, left
15	70923590	2	O-RING, bearing retainer (5" O. D.)
16	70622290	4	SHIM, bearing retainer (.005" thick. Use as required)
	70620872	12	SHIM, bearing retainer (.010" thick. Use as required)
17	70621643	2	RETAINER, left worm shaft bearing
18	70923823	4	O-RING, bearing retainer (5-3/8" O. D.)
19	70621660	2	SPACER, worm
20	70094917	2	WORM, gear driving
	70911238	2	KEY, #U woodruff, 7/16" x 2-3/4"
21	70621655	2	SHAFT, worm
22	70621659	4	SPACER, right worm shaft bearing
23	70621652	2	BEARING, worm shaft, right
24	70620727	2	GEAR, worm (left hand)
25	70050293	2	RING, snap, gear retaining

(Continued)

MOLDBOARD LIFT GEAR HOUSING ASSEMBLY (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION	
26	70621642	2	HOUSING, input drive	
	70901652	2	PLUG, pipe, 1/4"NPT	
27	70621648	8	STUD (5/8" diam.)	
	70904209	8	LOCKWASHER, 5/8"	
	70911044	8	NUT, 5/8"NF	
28	70634161	4	PLUG, vent (1/8"NPT)	
	70904269	4	BUSHING, pipe reducing, 1/2"NPT to 1/8"NPT	
	70915493	2	ELBOW, street, 45°, 1/2"NPT	
29	70649546	2	CAP, worm rear bearing	
	70910211	8	CAPSCREW, 3/8"NC x 1-1/8"	
	70904206	8	LOCKWASHER, 3/8"	
30	70620609	2	GASKET, worm rear bearing cap	
31	70611769	4	CONE ASSEMBLY, worm	
32	70202573	4	CUP, worm bearing	
33	70620726	2	WORM, input (left hand)	
34	70620871	4	SEAL, input worm	
35	70642836	4	SHIM, adjusting, worm front bearing (.002" thick)	} Use as req'd.
	70642835	4	SHIM, adjusting, worm front bearing (.005" thick)	
	70620607	16	SHIM, adjusting, worm front bearing (.010" thick)	
36	70923816	2	O-RING, brake shaft housing	
37	73110069	2	SPRING, worm brake shaft	
38	70648220	2	SHAFT ASSEMBLY, worm brake (Includes item 39)	} Graders prior to #1702
	70911273	2	KEY, #127 woodruff, 1/4" x 2-1/8"	
39	70622338	2	LINING, worm brake shaft	
	70921387	8	RIVET, tubular, brass, fl-hd., 9/64" x 5/8"	
40	-----	2	HOUSING, worm brake shaft (Order items 41 and 43)	
	70910211	8	CAPSCREW, 3/8"NC x 1-1/8"	
	70904206	8	LOCKWASHER, 3/8"	
41	70656184	2	SHAFT ASSEMBLY, worm brake (Includes item 42)	
	70911273	2	KEY, #127 woodruff, 1/4" x 2-1/8"	
42	70656186	2	LINING, worm brake shaft	
	70921387	8	RIVET, tubular, brass, fl-hd., 9/64" x 5/8"	
43	70656175	2	HOUSING ASSEMBLY, worm brake (Includes items 44 thru 46; also PLUG indented below)	} Graders #1702 and up
	70901651	2	PLUG, pipe, 1/8"NPT	
	70910211	8	CAPSCREW, 3/8"NC x 1-1/8"	
	70904206	8	LOCKWASHER, 3/8"	
44	70085203	2	BUSHING, worm brake housing	
45	70656169	2	PLUG, cup, worm brake housing	
46	70653782	2	WICK, oiling, worm brake shaft	

(Revised May 1978)



PITCH CYLINDER ASSY. 70665990

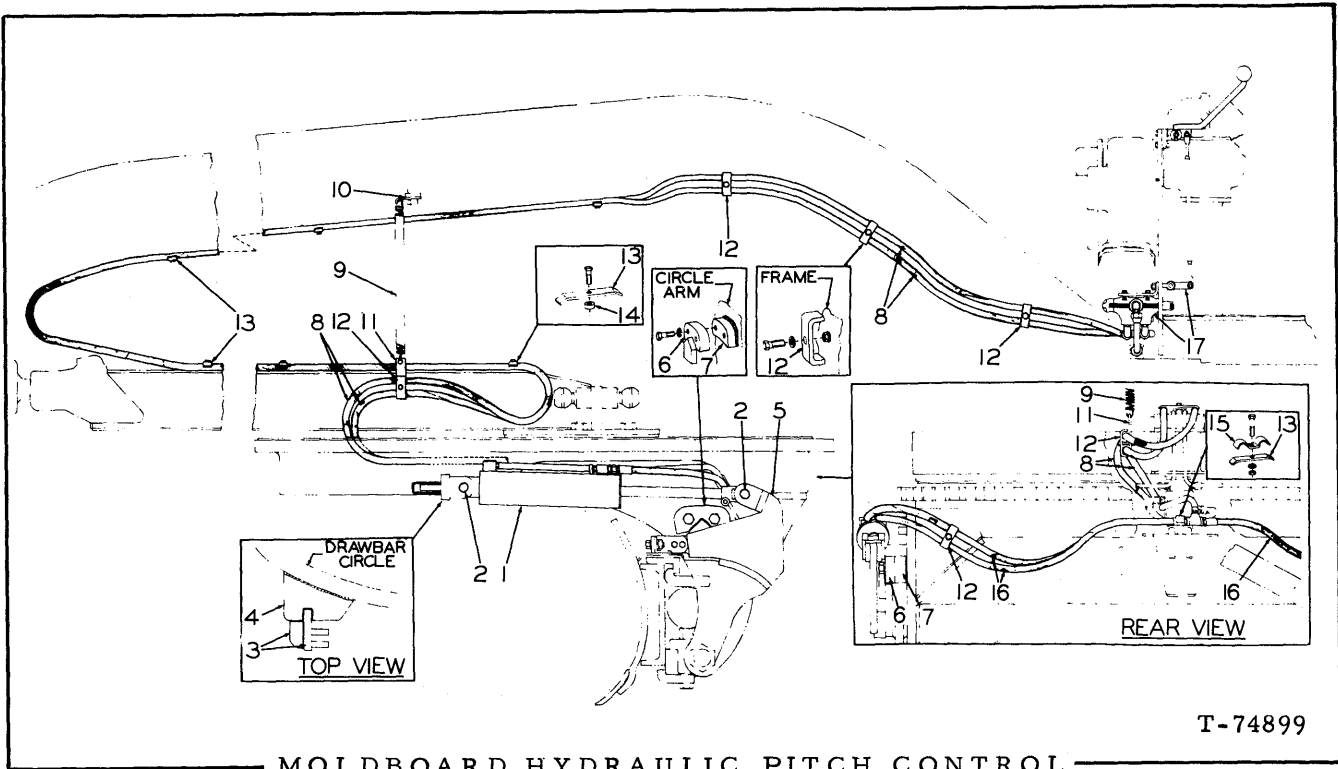
T-74898

USAGE: See page 195B

ITEM PART NO. QTY. DESCRIPTION

NOTE: Quantities indicated are for one (1) cylinder only.

1	70666056	1	TUBE, cylinder
2	70666058	1	PIPE, extension line
	70901765	1	COUPLING, pipe, 3/8"NPT
3	70666066	2	WASHER, back-up, piston o-ring
4	70923830	1	O-RING, piston
5	70666067	1	PISTON
6	70666065	1	GASKET, piston
7	70666057	1	ROD, piston
	70911047	1	NUT, hex, 1"NF
8	70923830	1	O-RING, cylinder head, outer
9	70923649	2	O-RING, cylinder head, inner
10	70666062	1	HEAD, cylinder
11	70666063	1	RING, snap, head retaining
12	70666061	1	CAP, cylinder head
	70912261	3	CAPSCREW, socket-hd., 1/4"NC x 3/4"
13	70666060	1	SEAL, wiper, piston rod
14	70666059	1	EYE, piston rod
	70912268	1	CAPSCREW, socket-hd., 3/8"NC x 1-1/2"
	70911026	1	NUT, 3/8"NC



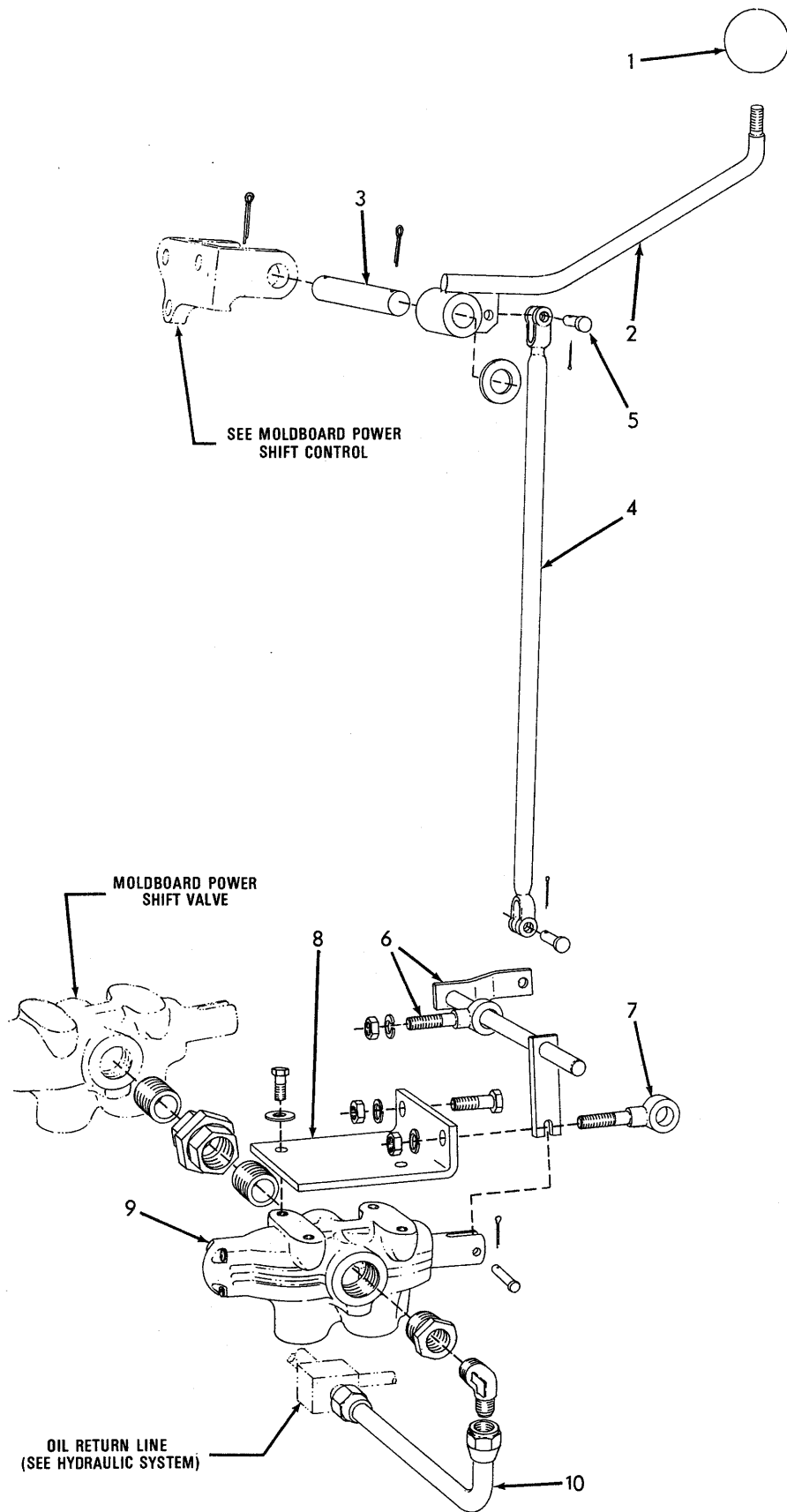
T-74899

MOLDBOARD HYDRAULIC PITCH CONTROL

MOLDBOARD HYDRAULIC PITCH CONTROL

USAGE: Special equipment for graders serial No. 1001 and up

ITEM	PART NO.	QTY.	DESCRIPTION
1	70665990	2	CYLINDER ASSEMBLY (See page 195 for parts)
2	70665365	4	PIN, cylinder connecting
	70900811	4	PIN, cotter, 3/16" x 1-1/2"
3	70665380	2	CLEVIS, cylinder connecting
4	70666029	2	PLATE, clevis attachment
} Require welding to drawbar circle			
5	70665997	1	BRACKET, pitch, left side
	70665996	1	BRACKET, pitch, right side
6	70665995	2	RETAINER, pitch bracket
	70912896	4	CAPSCREW, 3/4"NC x 2-1/4"
	70904369	4	LOCKWASHER, 3/4"
7	70666028	2	PLATE, tapped, pitch bracket retainer (Requires welding to drawbar circle)
8	70665993	2	HOSE, front (27 ft. long)
	70901704	2	TEE, pipe, 3/8"NPT
	70920751	2	ELBOW, flare type, 90°, 3/4" tube, 1/2"NPT male
9	70665991	1	SPRING, hose supporting
10	70665992	1	BRACKET, hose supporting spring
11	70665381	1	STRAP, hose supporting spring
12	70665363	6	CLAMP, hose supporting
	70916271	4	CAPSCREW, 3/8"NC x 1"
	70910948	2	CAPSCREW, 3/8"NC x 2"
	70904206	6	LOCKWASHER, 3/8"
	70911026	5	NUT, 3/8"NC
13	70666031	7	CLAMP, hose retaining
	70916271	6	CAPSCREW, 3/8"NC x 1"
	70904206	6	LOCKWASHER, 3/8"
14	70666064	6	SPACER, hose retaining clamp
15	70665382	1	CLAMP, hose retaining
	70912069	1	CAPSCREW, 3/8"NC x 2-1/2"
	70904206	1	LOCKWASHER, 3/8"
	70911026	1	NUT, 3/8"NC
16	70665362	4	HOSE, rear (5 ft. long)
	70919063	4	CONNECTOR, flare type, 1/2" tube, 3/8"NPT male
17	-----	-	VALVE AND CONTROLS (See page 195D)



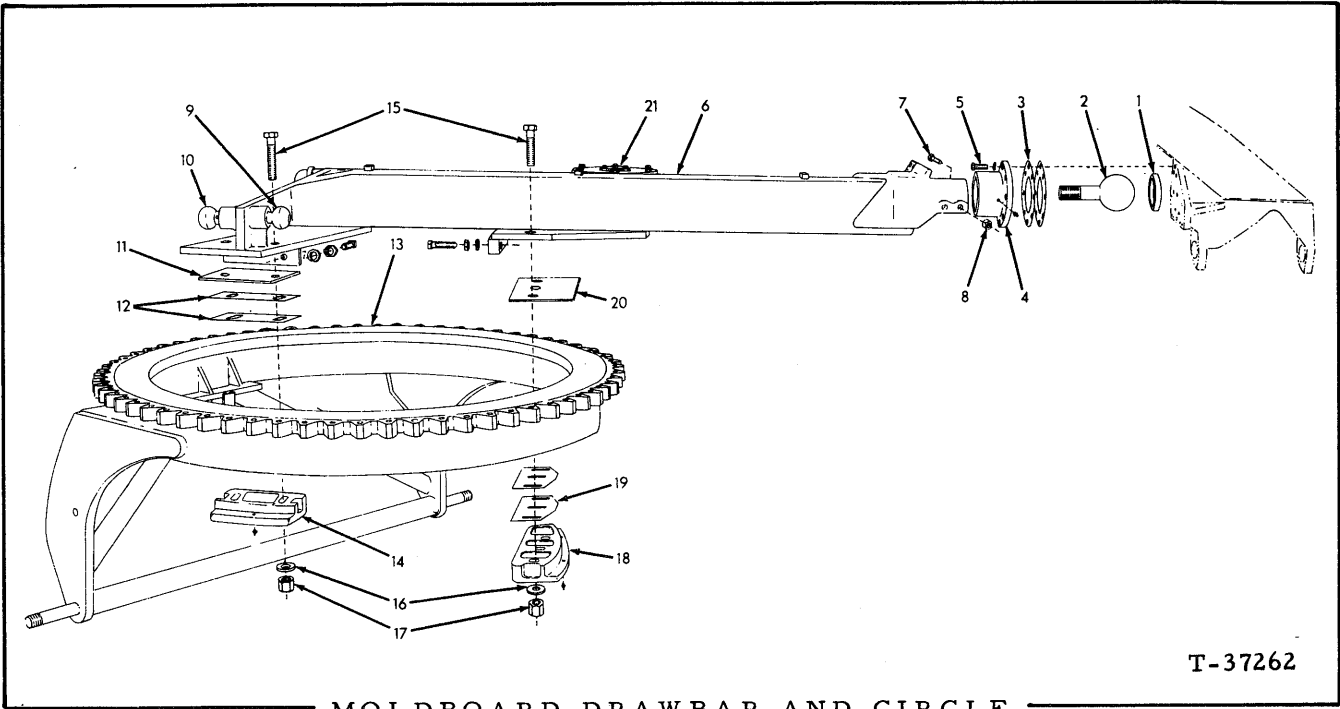
MOLDBOARD PITCH CONTROL VALVE

T-74897

MOLDBOARD PITCH CONTROL VALVE

USAGE: Special equipment for graders serial No. 1001 and up. See page 195B

ITEM	PART NO.	QTY.	DESCRIPTION
1	70091862	1	KNOB, operating lever
2	70666032	1	LEVER, operating
3	70665999	1	SHAFT, operating lever
	70900809	1	PIN, cotter, 1/8" x 1-3/4"
	70911100	1	WASHER, plain, SAE std., 5/8"
	70900806	1	PIN, cotter, 1/8" x 1"
4	70628052	1	ROD, valve operating
5	70627451	2	PIN, valve operating rod
	70900942	2	PIN, cotter, 3/32" x 5/8"
6	70666030	1	LINK ASSEMBLY, valve operating (Includes eye-bolt)
	70911026	1	NUT, 3/8"NC
	70904206	1	LOCKWASHER, 3/8"
7	70628061	1	BOLT, eye
	70904206	1	LOCKWASHER, 3/8"
	70911026	1	NUT, 3/8"NC
8	70622509	1	BRACKET, valve mounting
	70916272	1	CAPSCREW, 3/8"NC x 1-1/4"
	70904206	1	LOCKWASHER, 3/8"
	70911026	1	NUT, 3/8"NC
9	70091567	1	VALVE ASSEMBLY (See page 215 for parts)
	70915408	2	CAPSCREW, 3/8"NC x 3/4"
	70911115	2	WASHER, plain, SAE std., 3/8"
	70916745	1	UNION, pipe, 3/4"NPT
	70901511	2	NIPPLE, pipe, 3/4"NPT x 1-3/8"
10	70665994	1	TUBE ASSEMBLY, oil return (Includes nuts)
	70919195	1	ELBOW, flare type, 90°, 1/2" tube, 1/2"NPT male
	70901828	1	BUSHING, pipe reducing., 3/4"NPT to 1/2"NPT

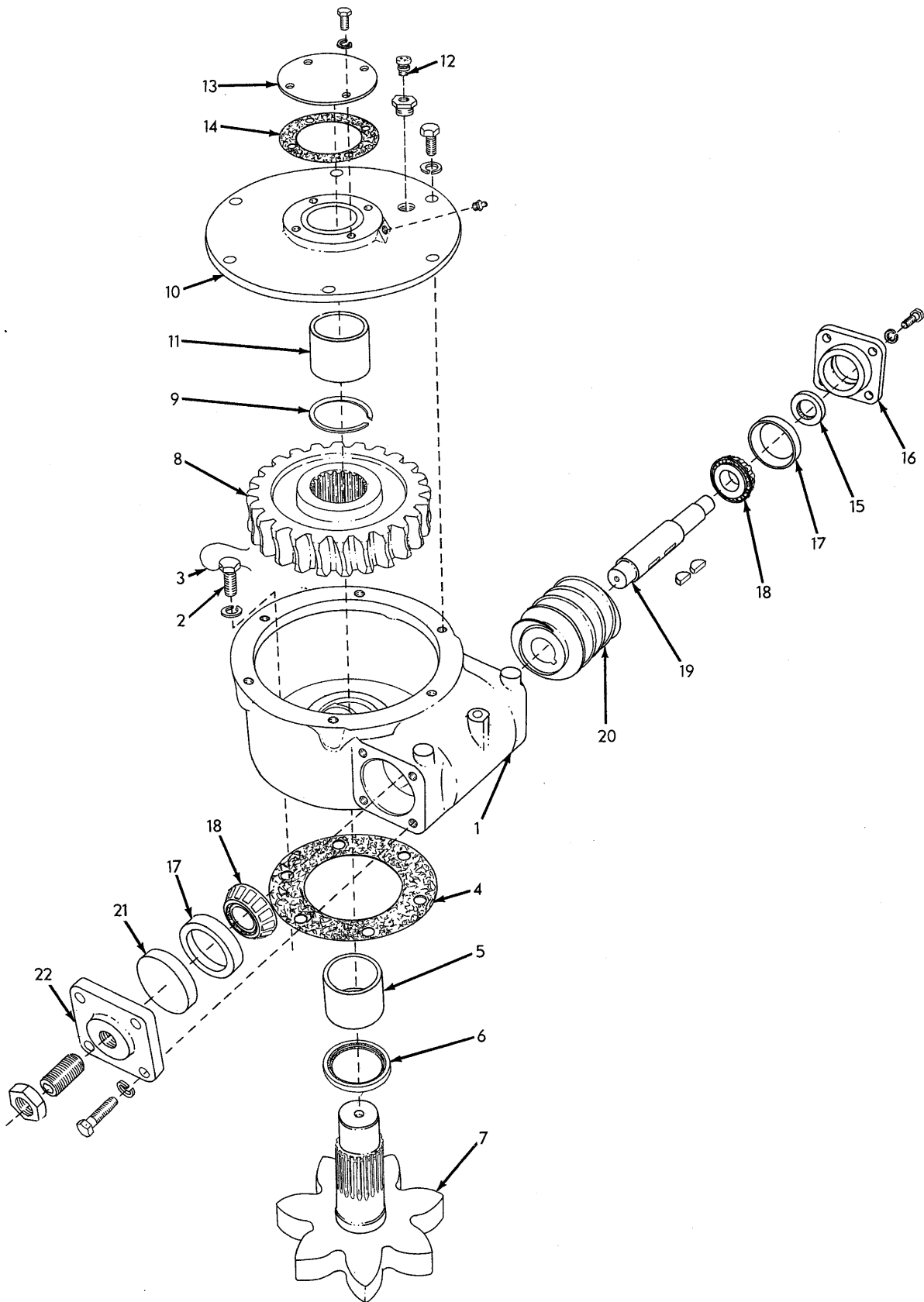


T-37262

MOLDBOARD DRAWBAR AND CIRCLE

MOLDBOARD DRAWBAR AND CIRCLE

ITEM	PART NO.	QTY.	DESCRIPTION
1	70633703	1	SEAT, drawbar ball
2	70633701	1	BALL, drawbar
3	70638349	10	SHIM, drawbar ball socket (Use as req'd)
4	70638357	1	SOCKET, drawbar ball
	70914465	1	FITTING, lubricating, straight, 1/8"NPT
5	70036707	8	CAPSCREW, 5/8"NC x 1-3/4"
	70904209	8	LOCKWASHER, 5/8"
6	70631387	1	DRAWBAR, moldboard (Includes items 9 and 10)(Used prior to grader #1001)
	70648176	1	DRAWBAR, moldboard (Includes items 9 and 10)(Effective with grader #1001)
	70912606	2	SETSCREW, sq.-hd., oval point, 7/8"NC x 3-1/2"
	70901267	4	SETSCREW, sq.-hd., oval point, 7/8"NC x 2-1/2"
	70901421	6	NUT, jam, 7/8"NC
7	70035422	2	CAPSCREW, 3/4"NF x 4"
8	70012767	2	NUT, high, 3/4"NF
9	70620464	4	BALL, circle lift (Requires welding to install)
10	70630209	2	BALL, circle side shift (Requires welding to install)
11	70623240	2	PLATE, wear, moldboard circle, rear
12	70602688	26	SHIM, rear guide (Use as req'd)
13	70098716	1	CIRCLE, moldboard (Used prior to grader #1001)
	70901653	4	PLUG, pipe, 3/8"NPT
	70643490	1	CIRCLE, moldboard (Effective with grader #1001)
14	70660055	2	GUIDE, rear
	70914465	2	FITTING, lubricating, straight, 1/8"NPT
15	70620527	6	CAPSCREW, guide attaching(1-1/8"NF x 5-1/2")
16	70602663	6	WASHER, plain
17	70053994	6	NUT, high, 1-1/8"NF
18	70660379	1	GUIDE, front
	70914465	2	FITTING, lubricating, straight, 1/8"NPT
19	70604270	12	SHIM, front guide
20	70639683	1	PLATE, wear, moldboard circle, front
21	-----	-	HOUSING(See CIRCLE TURN)

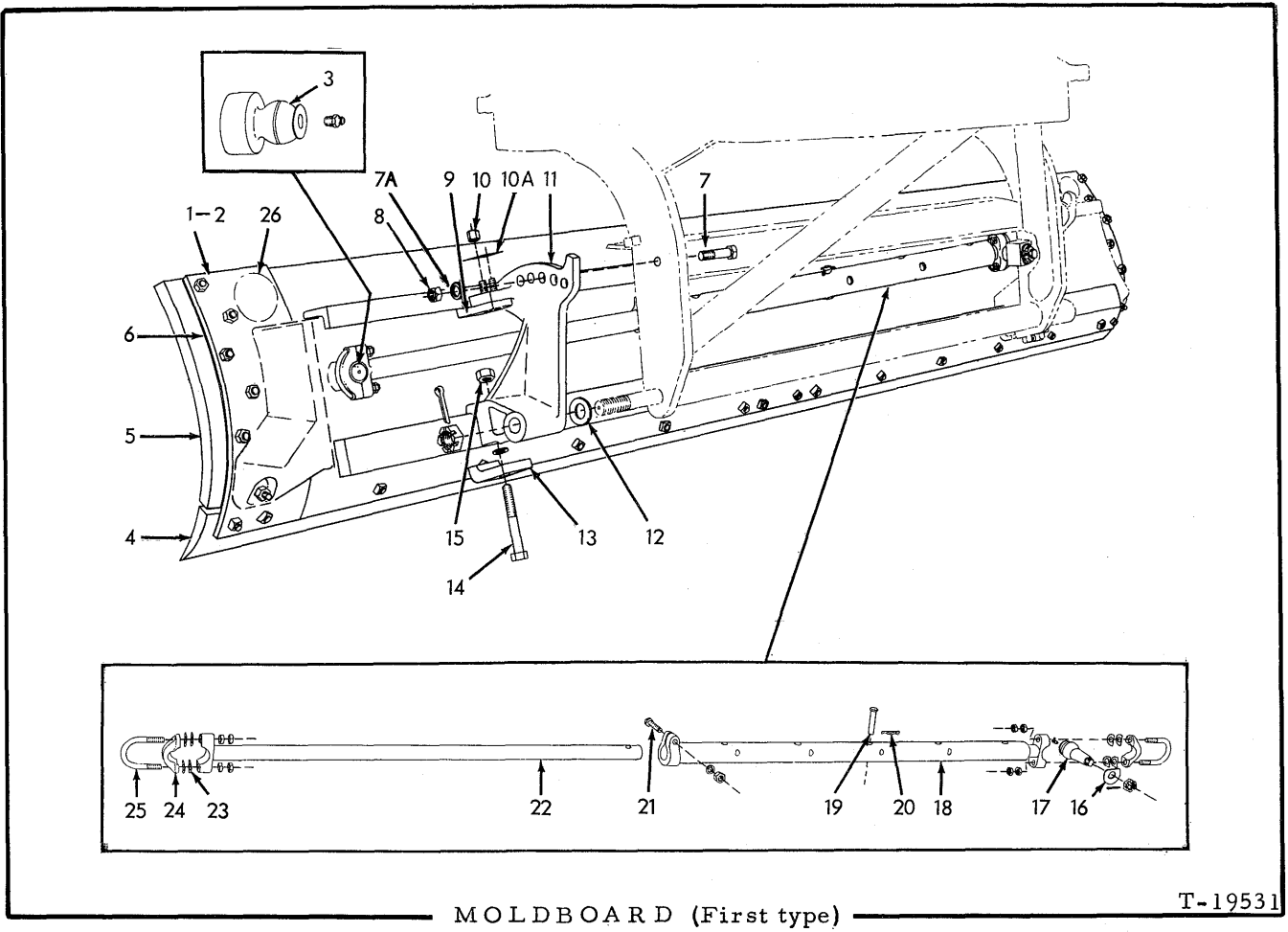


CIRCLE TURN

T-37271

CIRCLE TURN

ITEM	PART NO.	QTY.	DESCRIPTION
1	70647720	1	HOUSING ASSEMBLY (Includes item 5)
2	70622214	12	CAPSCREW, 5/8"NF x 1-1/2"
	70904209	12	LOCKWASHER, 5/8"
3	70023633	6	WIRE, locking, 1/16" x 12"
4	70622233	1	GASKET, housing (Used prior to grader #790)
5	70622210	1	BUSHING, housing
6	70634037	1	SEAL, oil, housing
7	70622153	1	SHAFT AND PINION
8	70630424	1	GEAR, worm
9	70622212	1	RING, snap, worm gear retaining
10	70622167	1	COVER ASSEMBLY, housing (Includes item 11)
	70914465	1	FITTING, lubricating, straight, 1/8"NPT
	70903637	6	CAPSCREW, 1/2"NC x 1"
	70904208	6	LOCKWASHER, 1"
11	70622211	1	BUSHING, housing cover
12	70634161	1	VENT, housing cover
	70904269	1	BUSHING, pipe reducing, 1/2"NPT to 1/8"NPT
13	70633698	1	PLATE, cover
	70903629	4	CAPSCREW, 3/8"NC x 3/4"
	70904206	4	LOCKWASHER, 3/8"
14	70633699	1	GASKET, cover plate
15	70603007	1	SEAL, oil, worm shaft
16	70649839	1	CAP, worm shaft front bearing
	70904541	4	CAPSCREW, 1/2"NC x 1-3/4"
	70904208	4	LOCKWASHER, 1/2"
17	70604387	2	CUP, worm shaft bearing
18	70604388	2	CONE ASSEMBLY, worm shaft bearing
19	70631229	1	SHAFT, worm
	70911201	2	KEY, #E woodruff, 3/8" x 1-1/4"
20	70099039	1	WORM (left hand)
21	70602272	1	PLUG, worm shaft bearing adjustment
22	70649278	1	CAP, worm shaft rear bearing
	70911227	1	SETSCREW, socket-hd., oval pt., 1"NC x 2"
	70911038	1	NUT, jam, 1"NC
	70903640	4	CAPSCREW, 1/2"NC x 2"
	70904208	4	LOCKWASHER, 1/2"



USAGE: Graders prior to serial No. 1001

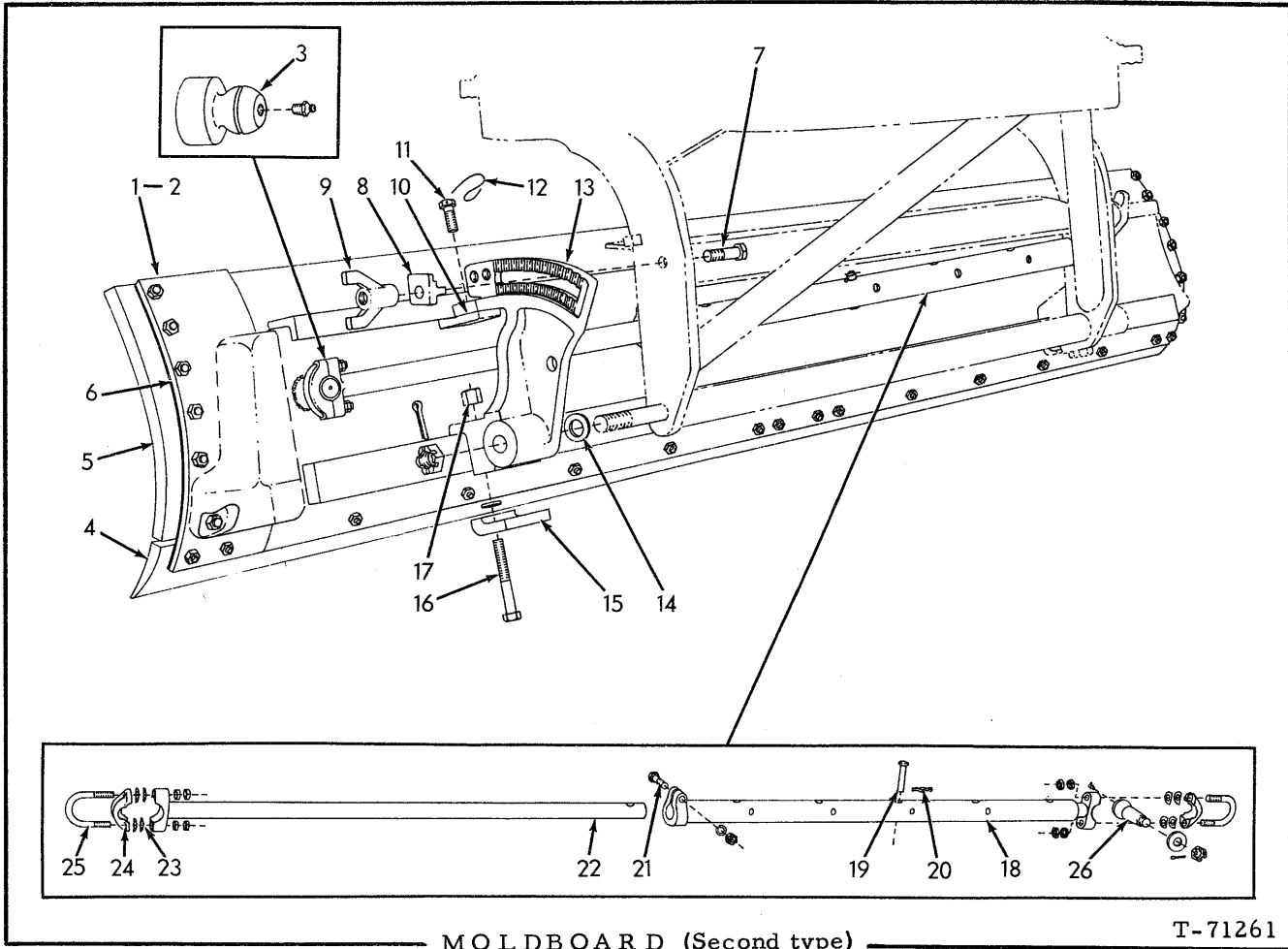
- * 12 ft. Standard equipment
- ** 14 ft. Optional equipment

ITEM	PART NO.	QTY.		DESCRIPTION
		*	**	
1	-----	1	-	MOLDBOARD ASSEMBLY (Consists of items 2 thru 6) (Order MOLDBOARD ASSY. 70643294)
	-----	-	1	MOLDBOARD ASSEMBLY (Consists of items 2 thru 6) (Order MOLDBOARD ASSY. 70646470)
2	-----	1	-	MOLDBOARD only
	-----	-	1	MOLDBOARD only
				Order item 1
3	70081321	1	1	BALL, shifting (Requires welding to moldboard)
	70914465	1	1	FITTING, lubricating, straight, 1/8"NPT
4	70099352	1	-	EDGE, cutting, right hand (6 ft.)
	70099351	1	-	EDGE, cutting, left hand (6 ft.)
	70099354	-	1	EDGE, cutting, right hand (7 ft.)
	70099353	-	1	EDGE, cutting, left hand (7 ft.)
	70911633	16	18	BOLT, plow, 5/8"NC x 2-1/4"
	70911029	16	18	NUT, 5/8"NC

(Continued)

MOLDBOARD (Continued)

ITEM	PART NO.	QTY.	* **	DESCRIPTION
5	70603475	1	1	BIT, end, left hand
	70603474	1	1	BIT, end, right hand
	70911633	10	10	BOLT, plow, 5/8"NC x 2-1/4"
	70915693	2	2	BOLT, plow, 5/8"NC x 3"
	70904209	12	12	LOCKWASHER, 5/8"
	70911029	12	12	NUT, 5/8"NC
6	70061479	8	8	SHIM, end bit (Use as req'd)
7	70634151	2	2	BOLT, moldboard support (7/8"NF x 4")
7A	70054726	2	2	WASHER, plain
8	70070400	2	2	NUT, high, 7/8"NF
9	70099176	2	2	GUIDE, moldboard slide
10	70012767	4	4	NUT, high, 3/4"NF
10A	70099173	2	2	LOCK, nut
11	70634149	1	1	SUPPORT, left side
	70634150	1	1	SUPPORT, right side
	70922271	2	2	NUT, slotted, 2"NF
	70911069	2	2	PIN, cotter, 5/16" x 3"
12	70634237	6	6	WASHER, spacing, moldboard support (Use as req'd)
13	70079507	2	2	BRACKET, moldboard slide
	70915978	20	20	WASHER, spacing (Use as req'd)
14	70048075	4	4	CAPSCREW, 1"NF x 6-1/2"
15	70600236	4	4	NUT, high, 1"NF
16	70081246	1	1	WASHER, linkage ball
17	70081322	1	1	BALL, shifting linkage, right side
	70915276	1	1	FITTING, lubricating, 90°, 1/8"NPT
	70911174	1	1	NUT, jam, slotted, 1"NF
	70900808	1	1	PIN, cotter, 1/8" x 1-1/2"
18	70098207	1	1	LINK, shifting
19	70602224	1	1	PIN, coupling, shifting linkage
20	70617855	1	1	CLIP, retaining, linkage coupling pin
21	70037573	1	1	CAPSCREW, shifting link clamping (5/8"NC x 2-3/4")
	70904209	1	1	LOCKWASHER, 5/8"
	70911029	1	1	NUT, 5/8"NC
22	70098209	1	1	ROD, shifting
23	70053992	16	16	SHIM, shifting linkage cap (Use as req'd)
24	70053986	2	2	CAP, shifting linkage
25	70605665	2	2	U-BOLT
	70911049	8	8	NUT, jam, 5/8"NF
26	-----	2	2	TRANSFER (See PAINTING AND MARKING)



MOLDBOARD (Second type)

T-71261

USAGE: Graders serial No. 1001 and up

- * 12 ft. Standard equipment
- ** 13 ft. Optional equipment
- *** 14 ft. Optional equipment

ITEM	PART NO.	QUANTITY			DESCRIPTION
		*	**	***	
1	70692319	1	-	-	MOLDBOARD ASSEMBLY } Each consists of items 2 thru 6
	70669239	-	1	-	
	70669243	-	-	1	
2	70692308	1	-	-	MOLDBOARD, only } Each includes item 3
	70669240	-	1	-	
	70669244	-	-	1	
3	70645590	1	1	1	BALL, shifting (Requires welding to moldboard) FITTING, lubricating, straight, 1/8"NPT
	70914465	1	1	1	

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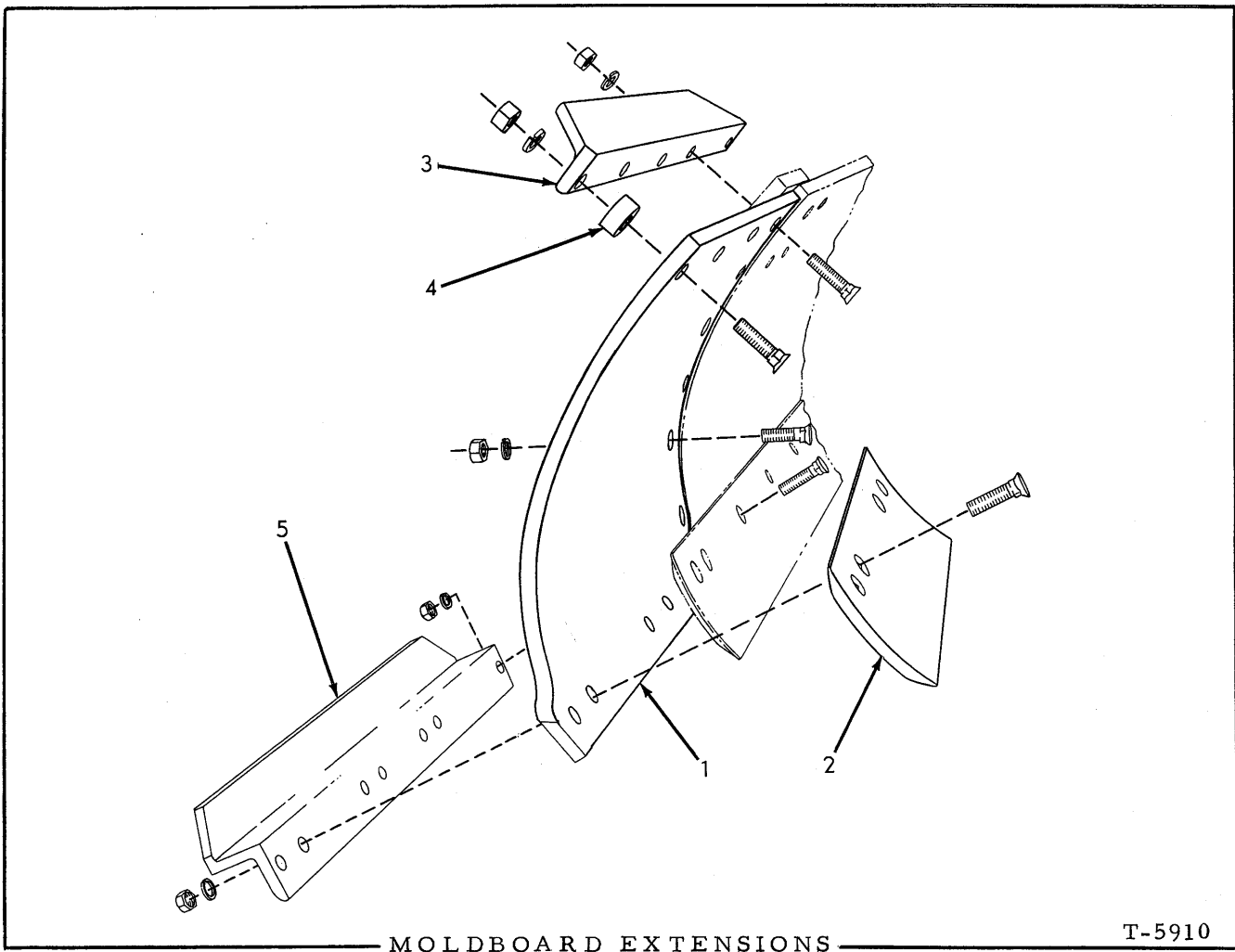
(Revised May 1978)

MOLDBOARD (Continued)

ITEM	PART NO.	QUANTITY			DESCRIPTION
		*	**	***	
4	70099352	1	1	-	EDGE, cutting, right hand (6 ft.)
	70099351	1	-	-	EDGE, cutting, left hand (6 ft.)
	70099354	-	-	1	EDGE, cutting, right hand (7 ft.)
	70099353	-	1	1	EDGE, cutting, left hand (7 ft.)
	70911633	16	17	18	BOLT, plow, 5/8"NC x 2-1/4"
	70911029	16	17	18	NUT, 5/8"NC
5	70643293	2	2	2	BIT, end
	70911634	10	10	10	BOLT, plow, 5/8"NC x 2-1/2"
	70916437	2	2	2	BOLT, plow, 5/8"NC x 3-1/4"
	70904209	12	12	12	LOCKWASHER, 5/8"
	70911029	12	12	12	NUT, 5/8"NC
6	70644917	8	8	8	SHIM, end bit (Use as required)
7	70648342	2	2	2	BOLT, pitch bracket (1-1/8"NF x 5-3/4")
8	70646738	2	2	2	WASHER, pitch bracket bolt
9	70638903	2	2	2	NUT, wing, pitch bracket bolt
10	70646739	2	2	2	GUIDE, moldboard slide
11	70646740	4	4	4	CAPSCREW, drilled-hd., 3/4"NF x 2-1/2"
12	70023633	2	2	2	WIRE, locking, 1/16" x 12"
13	70646735	1	1	1	BRACKET, pitch, left side
	70646736	1	1	1	BRACKET, pitch, right side
	70922271	2	2	2	NUT, slotted, 2"NF
	70911069	2	2	2	PIN, cotter, 5/16" x 3"
14	70634237	6	6	6	WASHER, spacing, moldboard support (Use as required)
15	70079507	2	2	2	BRACKET, moldboard slide
	70915978	20	20	20	WASHER, spacing (Use as required)
16	70048075	4	4	4	CAPSCREW, 1"NF x 6-1/2"
17	70600236	4	4	4	NUT, high, 1"NF
18	70098207	1	1	1	LINK, shifting
19	70602224	1	1	1	PIN, coupling, shifting linkage
20	70617855	1	1	1	CLIP, retaining, linkage coupling pin
21	70037573	1	1	1	CAPSCREW, shifting link clamping (5/8"NC x 2-3/4")
	70904209	1	1	1	LOCKWASHER, 5/8"
	70911029	1	1	1	NUT, 5/8"NC
22	70645755	1	1	1	ROD, shifting
23	70053992	16	16	16	SHIM, shifting linkage cap (Use as required)
24	70053986	2	2	2	CAP, shifting linkage
25	70605665	2	2	2	U-BOLT
	70911049	8	8	8	NUT, jam, 5/8"NF
26	70081334	1	1	1	BALL, shifting linkage, right side
	70915276	1	1	1	FITTING, lubricating, 90°, 1/8"NPT
	70911174	1	1	1	NUT, jam, slotted, 1"NF
	70900808	1	1	1	PIN, cotter, 1/8" x 1-1/2"
	70900822	1	1	1	WASHER, plain, U.S. std., 1"

} Not for units equipped with hydraulic pitch control

(Revised May 1978)



MOLDBOARD EXTENSIONS

T-5910

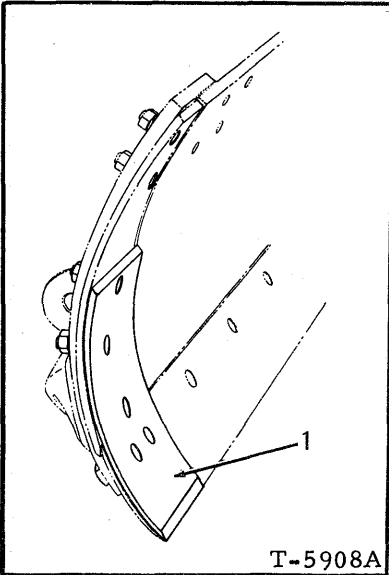
USAGE: Special equipment

ITEM	PART NO.	QTY.	DESCRIPTION	
1	70628967	1	EXTENSION, left hand	For graders prior to #1001
	70628978	1	EXTENSION, right hand	
	70646397	1	EXTENSION, left hand	For graders #1001 and up
	70646350	1	EXTENSION, right hand	
	70911633	8	BOLT, plow, 5/8"NC x 2-1/4"	
	70915693	2	BOLT, plow, 5/8"NC x 3"	
	70904209	10	LOCKWASHER, 5/8"	
	70911029	10	NUT, 5/8"NC	
2	70099350	2	EDGE, cutting	
	70915693	8	BOLT, plow, 5/8"NC x 3"	
	70904209	8	LOCKWASHER, 5/8"	
	70911029	8	NUT, 5/8"NC	
3	70603156	1	ANGLE, top reinforcing, right hand	
	70603157	1	ANGLE, top reinforcing, left hand	
	70913648	10	BOLT, plow, 5/8"NC x 2-3/4"	
	70904209	10	LOCKWASHER, 5/8"	
	70911029	10	NUT, 5/8"NC	

(Continued)

MOLDBOARD EXTENSIONS (Continued)

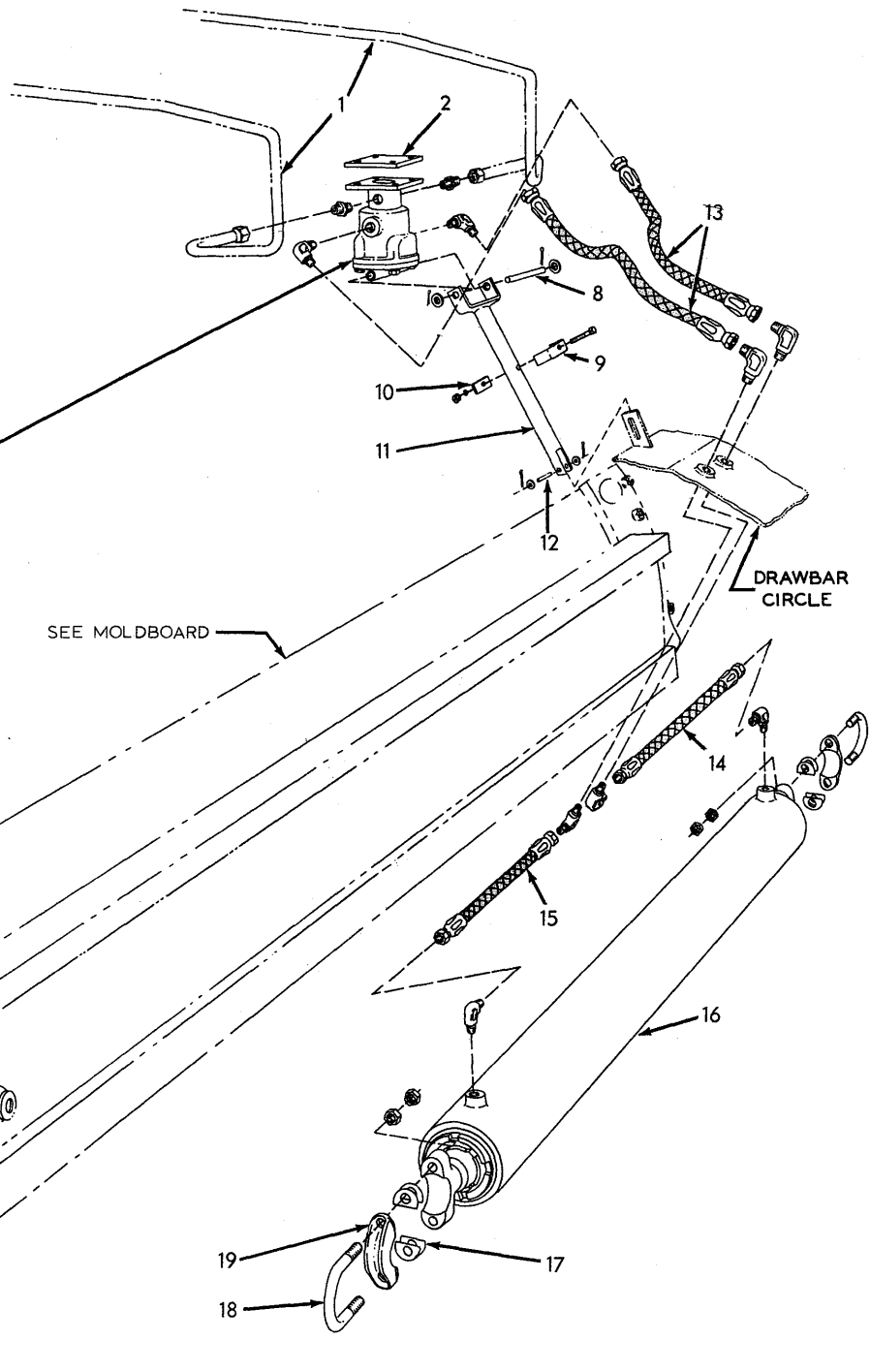
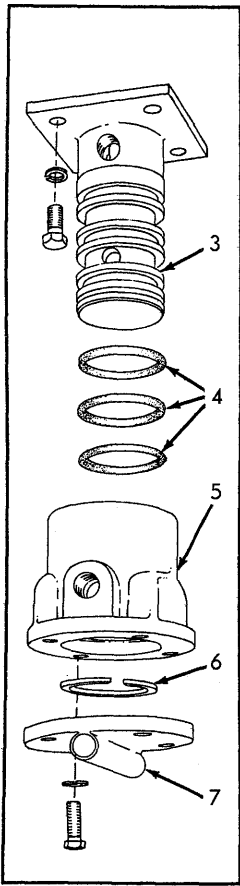
ITEM	PART NO.	QTY.	DESCRIPTION
4	70602449	8	SPACER, moldboard extension
5	70633982	1	BAR, bottom reinforcing, right hand
	70633981	1	BAR, bottom reinforcing, left hand
	70915693	6	BOLT, plow, 5/8"NC x 3"
	70904209	6	LOCKWASHER, 5/8"
	70911029	6	NUT, 5/8"NC



MOLDBOARD ROCK BITS

USAGE: Special equipment. For use under conditions of extreme abrasion

ITEM	PART NO.	QTY.	DESCRIPTION
1	70094921	1	BIT, rock, left hand
	70094922	1	BIT, rock, right hand
	70646379	1	BIT, rock, left hand
	70646380	1	BIT, rock, right hand
	70913648	4	BOLT, plow, 5/8"NC x 2-3/4"
	70911029	4	NUT, 5/8"NC
	70915693	4	BOLT, plow, 5/8"NC x 3"
	70911635	2	BOLT, plow, 5/8"NC x 3-1/2"
	70904209	6	LOCKWASHER, 5/8"
	70911029	6	NUT, 5/8"NC



MOLDBOARD POWER SHIFT (First type)

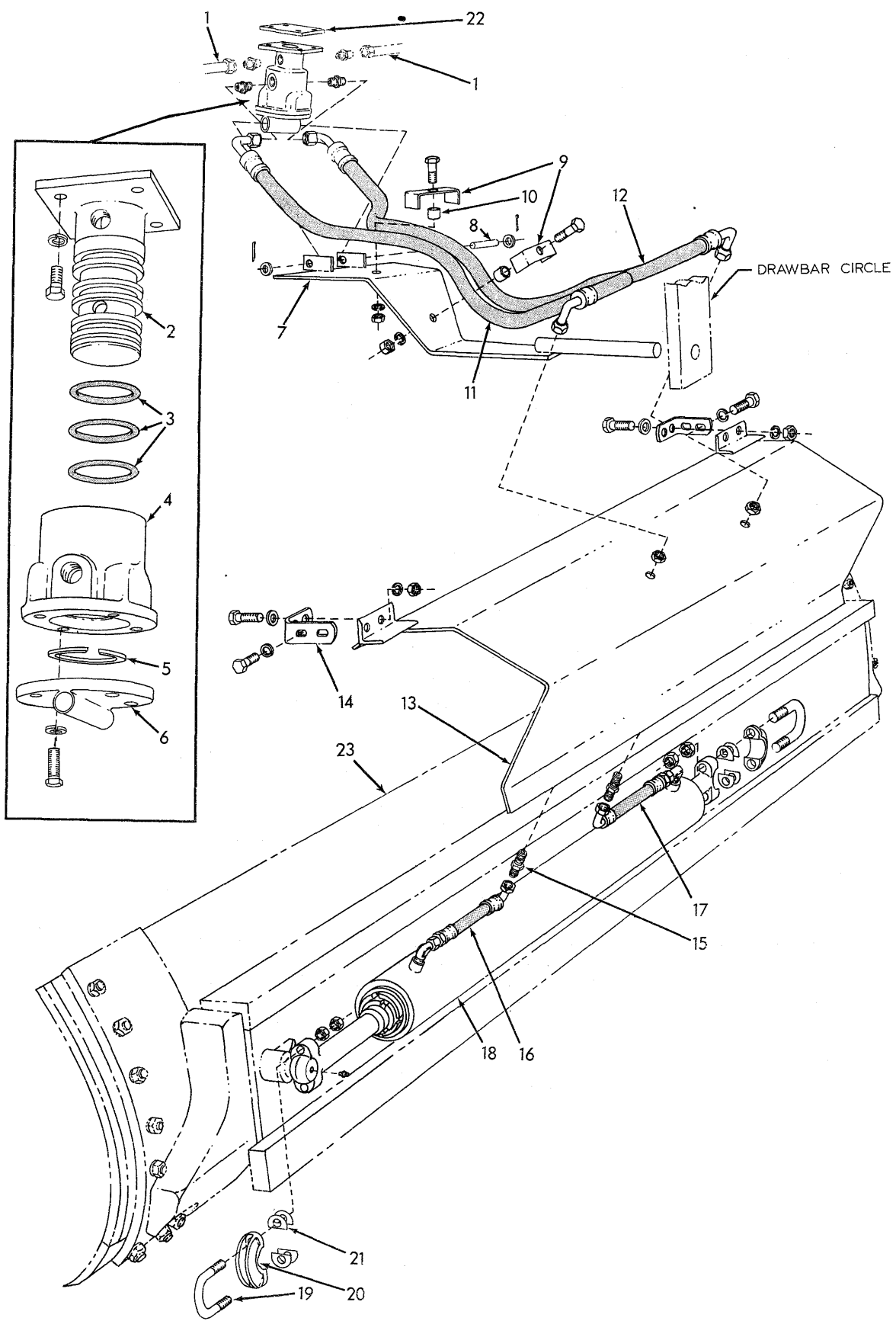
T-37206

MOLDBOARD POWER SHIFT

USAGE: Special equipment. For graders prior to serial No. 1001

ITEM	PART NO.	QTY.	DESCRIPTION	
1	-----	2	TUBE ASSY., oil (See MOLDBOARD POWER SHIFT PIPING)	
2	70621870	1	PLATE, swivel mounting (Requires welding to moldboard drawbar)	
3	70080002	1	SWIVEL, oil line	
	70903629	4	CAPSCREW, 3/8"NC x 3/4"	
	70904206	4	LOCKWASHER, 3/8"	
4	70923702	3	O-RING, swivel	
5	70079853	1	HOUSING, swivel	
6	70050292	1	RING, snap, oil line swivel	
7	70080241	1	PLATE, swivel housing	
	70903630	4	CAPSCREW, 3/8"NC x 1"	
	70904206	4	LOCKWASHER, 3/8"	
8	70080472	1	PIN, swivel operating yoke, upper	
	70900817	2	WASHER, plain, U.S. std., 3/8"	
	70900942	2	PIN, cotter, 3/32" x 5/8"	
9	70081309	1	STRAP, hose retaining	
	70914892	1	CAPSCREW, 1/4"NF x 1-3/4"	
	70904204	1	LOCKWASHER, 1/4"	
	70911040	1	NUT, 1/4"NF	
10	70081312	1	BLOCK, hose retaining strap	
11	70621986	1	YOKE, swivel operating	
12	70081314	1	PIN, swivel operating yoke, lower	
	70900816	2	WASHER, plain, U.S. std., 1/4"	
	70900942	2	PIN, cotter, 3/32" x 5/8"	
13	70645408	2	HOSE, swivel to cylinder, upper (See HOSE PARTS)	
	70919206	4	ELBOW, flare type, 1/2" tube, 3/8"NPT male	
14	70645410	1	HOSE, swivel to cylinder, lower right (See HOSE PARTS)	
	70919195	1	ELBOW, flare type, 1/2" tube, 1/2"NPT male	
	70919206	1	ELBOW, flare type, 1/2" tube, 3/8"NPT male	
15	70645409	1	HOSE, swivel to cylinder, lower left (See HOSE PARTS)	
	70919195	1	ELBOW, flare type, 1/2" tube, 1/2"NPT male	
	70919206	1	ELBOW, flare type, 1/2" tube, 3/8"NPT male	
	70921402	2	ELBOW, adjustable, 90°, flare type, 1/2" tube, 3/4"NF	
			(Includes washer, nut and O-RING)(Late units)	
	70921349	2	O-RING	
16	{	70098157	1	CYLINDER ASSY. (See page 211)(Original equipment. Order 1 CYLINDER ASSY. 70683867 and 2 ELBOW 70921402)
		70683867	1	CYLINDER ASSY. (See page 211A)(Service replacement)(First type)
		70693056	1	CYLINDER ASSY. (See page 211B)(Service replacement)(Second type)
17	70053992	16	SHIM, cylinder end cap (Use as required)	
18	70605665	2	U-BOLT, cylinder end cap	
	70911049	8	NUT, jam, 5/8"NF	
19	70053986	2	CAP, cylinder end	

(Revised May 1981)



MOLDBOARD POWER SHIFT (Second type)

T-71270

MOLDBOARD POWER SHIFT

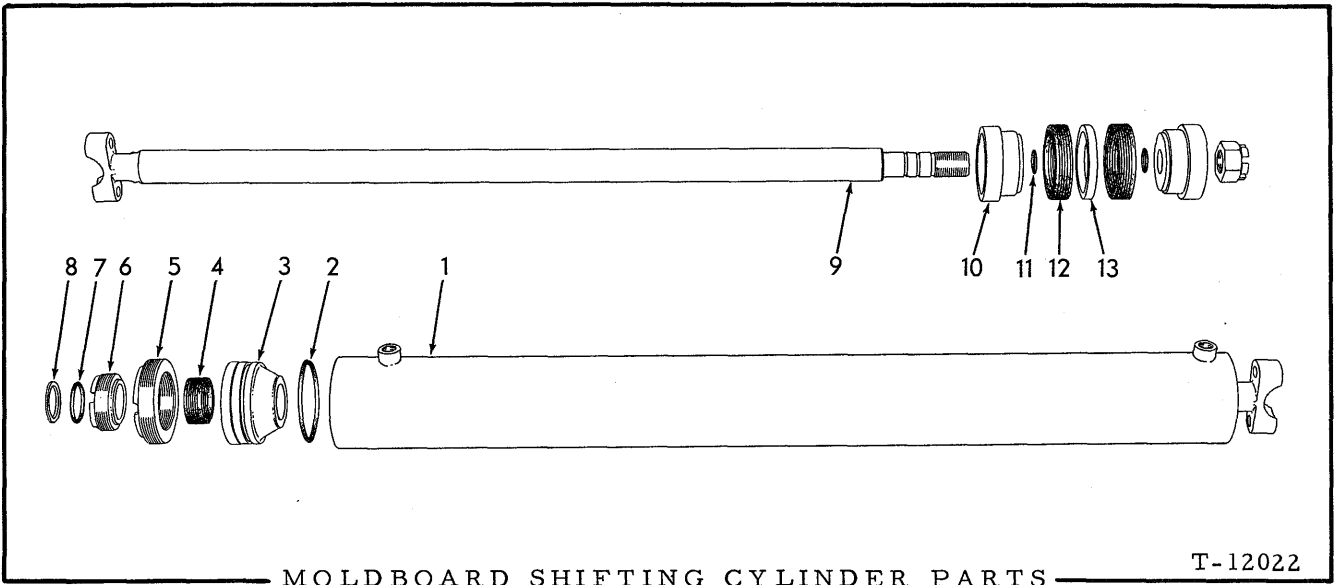
USAGE: Special equipment. For graders serial No. 1001 and up.

ITEM	PART NO.	QTY.	DESCRIPTION
1	-----	2	TUBE ASSY., oil (See MOLDBOARD POWER SHIFT PIPING)
2	70080002	1	SWIVEL, oil line
	70903629	4	CAPSCREW, 3/8"NC x 3/4"
	70904206	4	LOCKWASHER, 3/8"
3	70923702	3	O-RING, swivel
4	70079853	1	HOUSING, swivel
5	70050292	1	RING, snap, oil line swivel
6	70080241	1	PLATE, swivel housing
	70903630	4	CAPSCREW, 3/8"NC x 1"
	70904206	4	LOCKWASHER, 3/8"
7	70647292	1	YOKE swivel operating
8	70080472	1	PIN, swivel operating yoke, upper
	70900817	2	WASHER, plain, U.S. Std., 3/8"
	70900942	2	PIN, cotter, 3/32" x 5/8"
9	70647313	2	STRAP, hose retaining
	70903634	2	CAPSCREW, 3/8"NC x 2" (1 less used with hydraulic pitch control)
	70904206	2	LOCKWASHER, 3/8"
	70911026	2	NUT, 3/8"NC
10	70043024	2	BLOCK, spacing, hose retaining strap
11	70643432	1	HOSE, swivel to cylinder, upper left (See HOSE PARTS)
	70919063	1	CONNECTOR, flare type, 1/2" tube, 3/8"NPT male
12	70643431	1	HOSE, swivel to cylinder, upper right (See HOSE PARTS)
	70919063	1	CONNECTOR, flare type, 1/2" tube, 3/8"NPT male
13	70649329	1	GUARD, shifting cylinder
	70903639	4	CAPSCREW, 1/2"NC x 1-1/2"
	70900818	4	WASHER, plain, U.S. Std., 1/2"
	70904208	4	LOCKWASHER, 1/2"
	70911028	4	NUT, 1/2"NC
14	70646763	2	ANGLE, guard attaching (Not for units with hydraulic pitch control)
	70903639	4	CAPSCREW, 1/2"NC x 1-1/2"
	70904208	4	LOCKWASHER, 1/2"
14	70665998	2	ANGLE, guard attaching (For units with hydraulic pitch control)
	70916314	4	CAPSCREW, 1/2"NC x 2" } Also attach
	70904208	4	LOCKWASHER, 1/2" } pitch bracket
15	70622836	2	ADAPTER, bulkhead (Includes nut)
16	70643428	1	HOSE, swivel to cylinder, lower left (See HOSE PARTS)
	70921402	1	ELBOW, adjustable, 90°, flare type, 1/2" tube, 3/4"NF (Includes washer, nut and O-RING 70921349)

(Continued)

MOLDBOARD POWER SHIFT (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
17	70647993	1	HOSE, swivel to cylinder, lower right (See HOSE PARTS)
	70921402	1	ELBOW, adjustable, 90°, flare type, 1/2" tube, 3/4"NF (Includes washer, nut and O-RING 70921349)
	70693056	1	CYLINDER ASSY. (Service replacement)(See page 211B)
18	70645968	1	CYLINDER ASSY., (Original equipment)(See page 211 for parts)
19	70605665	2	U-BOLT, cylinder end cap
	70911049	8	NUT, jam, 5/8"NF
20	70053986	2	CAP, cylinder end
21	70053992	16	SHIM, cylinder end cap (Use as required)
22	70621870	1	PLATE, swivel mounting (Requires welding to moldboard drawbar)
23	-----	1	MOLDBOARD ASSY. (See page 202)



MOLDBOARD SHIFTING CYLINDER PARTS

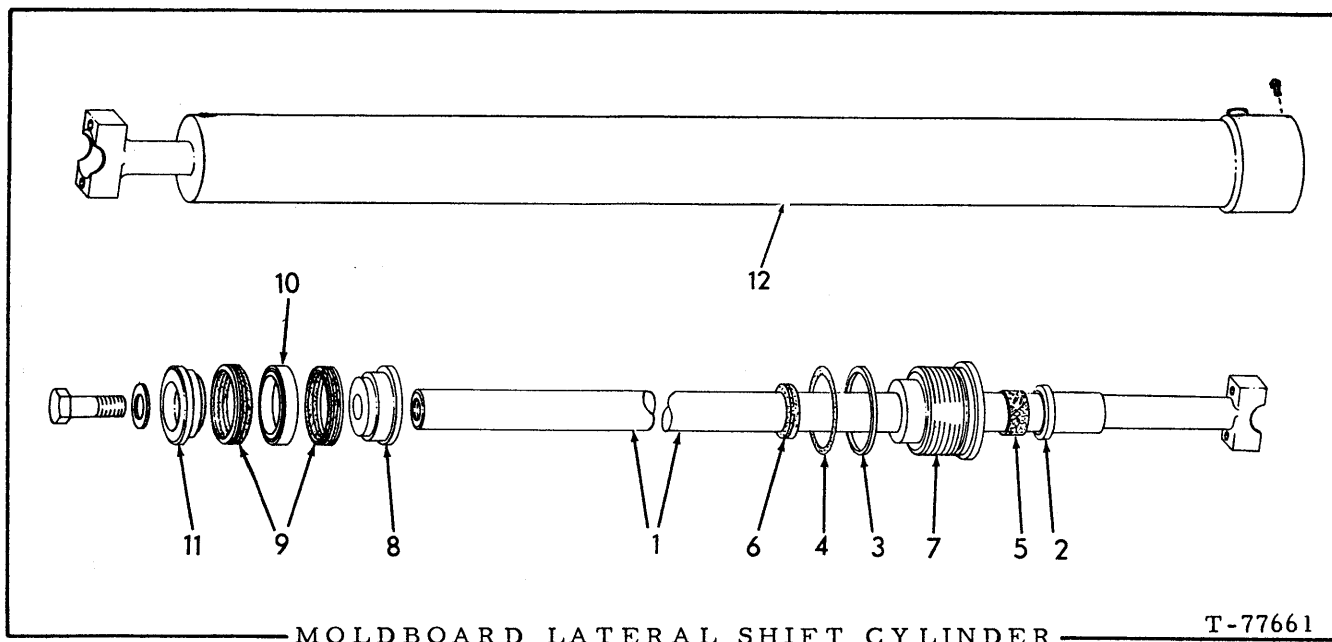
T-12022

* 70098157 CYLINDER ASSY. (Early units. See page 207)
 ** 70645968 CYLINDER ASSY. (Late units. See page 209)

ITEM	PART NO.	QTY.		DESCRIPTION
		*	**	
1	70099397	1	-	TUBE, cylinder
	70643382	-	1	TUBE, cylinder
2	70923834	1	1	□ O-RING, stuffing box
3	70080306	1	1	BOX, stuffing
4	70080285	1	1	□ PACKING ASSEMBLY, stuffing box
5	70080305	1	1	NUT, stuffing box retaining
6	70080282	1	1	NUT, packing adjustment
7	70923579	1	1	□ O-RING, piston rod
8	70080283	1	1	□ RING, piston rod wiping
9	70099395	1	-	ROD, piston
	70642862	-	1	ROD, piston
	70905344	1	1	NUT, castle, 1-1/2"NF
10	70080279	2	2	PISTON
11	70923649	2	2	□ O-RING, piston
12	70080277	2	2	□ PACKING ASSEMBLY, piston
13	70080278	1	1	WASHER, piston
14	73112080	1	1	REPAIR KIT, cylinder (Includes items 2, 4, 7, 8, 11 and 12)

□ Components of item 14

(Revised May 1978)

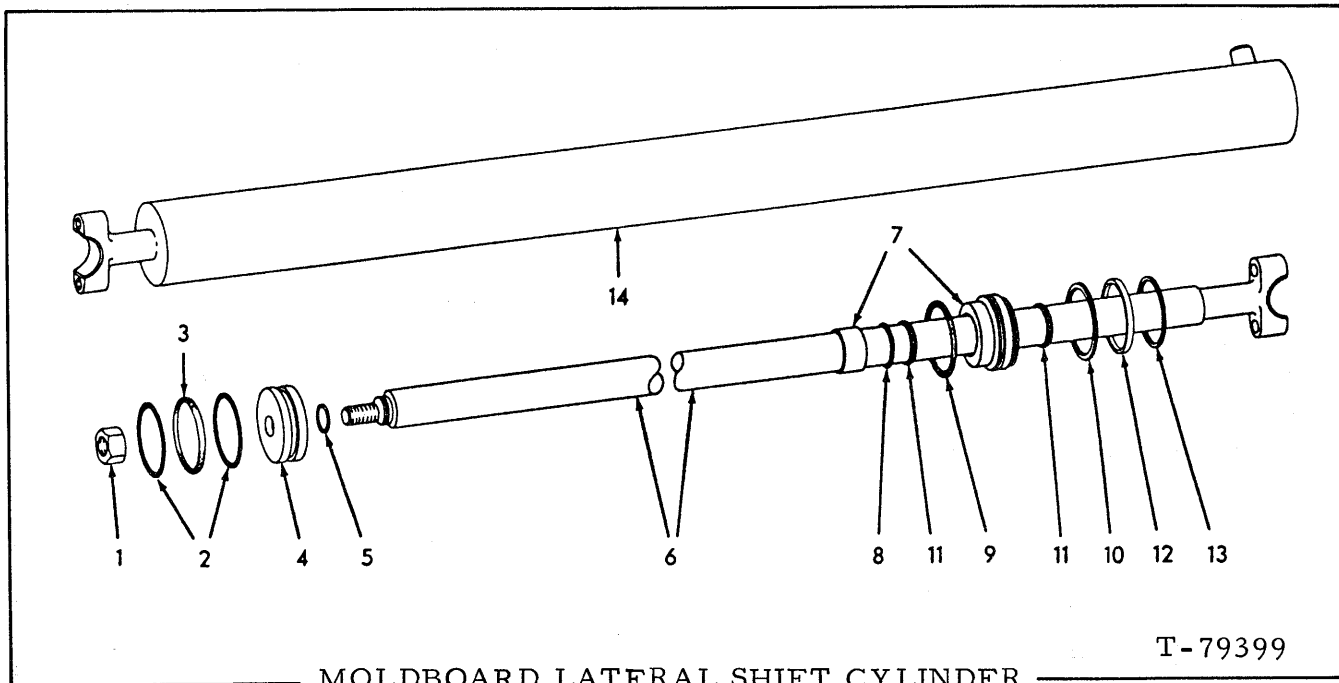


USAGE: See page 207

ITEM	PART NO.	QTY.	DESCRIPTION
-	70683867	1	CYLINDER ASSY. (Includes items 1 thru 11 and screw indented below) (Order service replacement Cylinder Assy. 70693056
	70929973	1	SCREW, round-hd., slotted, thread-cutting, #8NF x 1/4"
1	70688285	1	ROD
	70923201	1	CAPSCREW, 1-1/4"NC x 3"
	70689757	1	WASHER, plain
2	70684344	1	<input type="checkbox"/> WIPER
3	70926632	1	<input type="checkbox"/> RING
4	70923820	1	<input type="checkbox"/> O-RING
5	70689072	1	<input type="checkbox"/> BEARING STRIP
6	70689076	1	<input type="checkbox"/> SEAL
7	70689188	1	GLAND ASSY. (Includes ring. Serviced only as a unit)
8	70689267	1	PISTON
9	70689193	2	<input type="checkbox"/> PACKING ASSY.
10	70689260	1	RING
11	70689266	1	PISTON
12	-----	1	TUBE (Not serviced separately)
13	73112081	1	REPAIR KIT (Includes items 2 thru 6 and 9)

Components of item 13

(Revised May 1981)

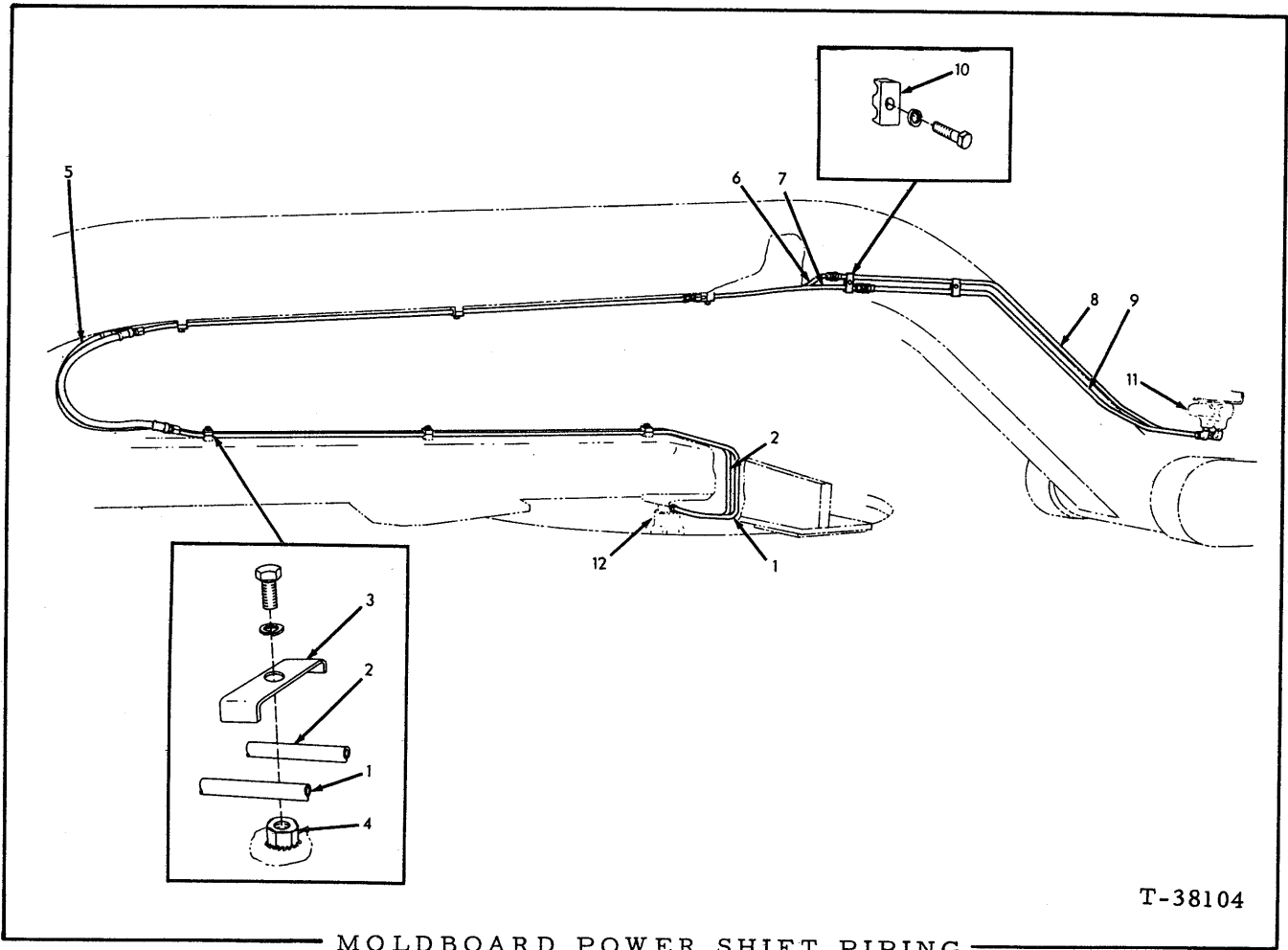


MOLDBOARD LATERAL SHIFT CYLINDER

USAGE: See pages 207 and 210

ITEM	PART NO.	QTY.	DESCRIPTION
-	70693056	1	CYLINDER ASSY. (Includes items 1 thru 14)
1	70695513	1	NUT
2	70695676	2	WASHER
3	70923831	1	□ O-RING
4	70695673	1	PISTON
5	70923649	1	□ O-RING
6	70695677	1	ROD
7	70695674	1	HEAD ASSY. (Includes Bushing which is not serviced separately)
8	70923579	1	□ O-RING
9	70927242	1	□ O-RING
10	70930955	1	RING, snap
11	70695446	2	□ WIPER
12	70695675	1	SPACER
13	70930954	1	RING, snap
14	70695678	1	TUBE
15	73112086	1	REPAIR KIT, cylinder (Includes items 3, 5, 8, 9 and 11)

□ Components of item 15



T-38104

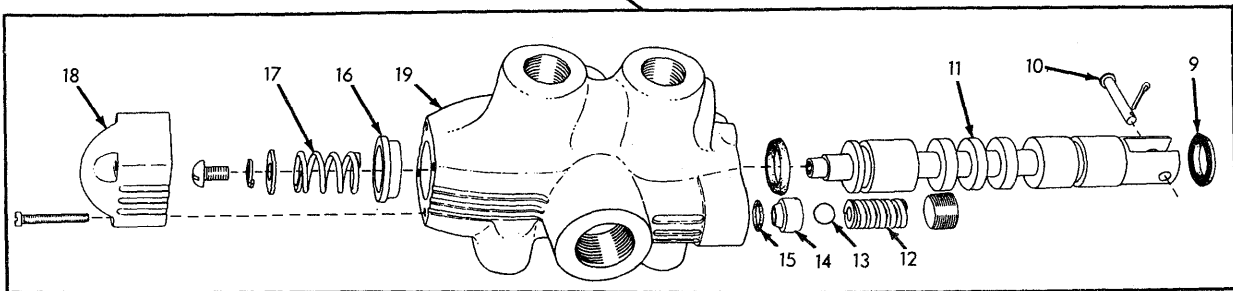
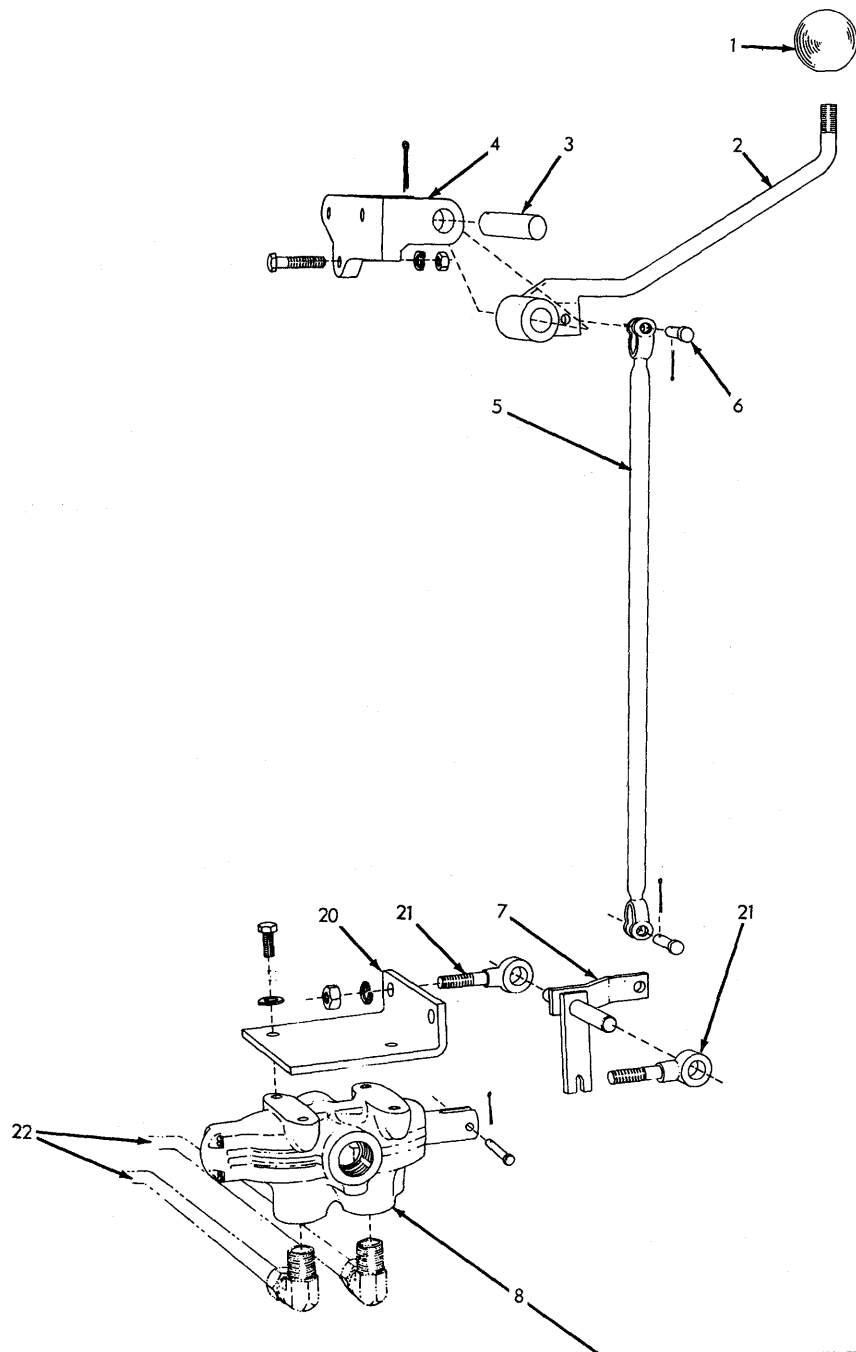
MOLDBOARD POWER SHIFT PIPING

MOLDBOARD POWER SHIFT PIPING

USAGE: Special equipment

* Graders prior to serial No. 1001
 ** Graders serial No. 1001 and up

ITEM	PART NO.	QTY.		DESCRIPTION
		*	**	
1	70623569	1	-	TUBE ASSEMBLY, drawbar, left (Includes nuts)
	70646023	-	1	TUBE ASSEMBLY, drawbar, left (Includes nuts)
	70919063	1	1	CONNECTOR, flare type, 1/2" tube, 3/8"NPT male
2	70623570	1	-	TUBE ASSEMBLY, drawbar, right (Includes nuts)
	70646024	-	1	TUBE ASSEMBLY, drawbar, right (Includes nuts)
	70919063	1	1	CONNECTOR, flare type, 1/2" tube, 3/8"NPT male
3	70637772	6	6	CLAMP, tube supporting
	70903628	6	6	CAPSCREW, 3/8"NC x 5/8"(Not for units with hydraulic pitch control)
	70904206	6	6	LOCKWASHER, 3/8"
4	70647418	3	3	NUT (Requires welding to drawbar)
5	70645412	2	2	HOSE, connecting (See HOSE PARTS)
6	70623528	1	-	TUBE ASSEMBLY, frame, left front (Includes nuts)
	70646343	-	1	TUBE ASSEMBLY, frame, left front (Includes nuts)
	70919066	1	1	UNION, flare type, 1/2" tube
7	70637779	1	-	TUBE ASSEMBLY, frame, right front (Includes nuts)
	70646025	-	1	TUBE ASSEMBLY, frame, right front (Includes nuts)
	70919066	1	1	UNION, flare type, 1/2" tube
8	70623563	1	1	TUBE ASSEMBLY, frame, rear upper (Includes nuts)
	70919195	1	1	ELBOW, flare type, 1/2" tube, 1/2"NPT male
9	70623566	1	1	TUBE ASSEMBLY, frame, rear lower (Includes nuts)
	70919195	1	1	ELBOW, flare type, 1/2" tube, 1/2"NPT male
10	70623355	2	2	CLAMP, tube supporting
	70910211	2	2	CAPSCREW, 3/8"NC x 1-1/8" (1 less used with hydraulic pitch control)
	70904206	2	2	LOCKWASHER, 3/8"
11	-----	-	-	VALVE ASSEMBLY (See MOLDBOARD POWER SHIFT CONTROL VALVE)
12	-----	-	-	HOUSING, swivel (See MOLDBOARD POWER SHIFT)



T-37247

MOLDBOARD POWER SHIFT CONTROL VALVE

MOLDBOARD POWER SHIFT CONTROL VALVE

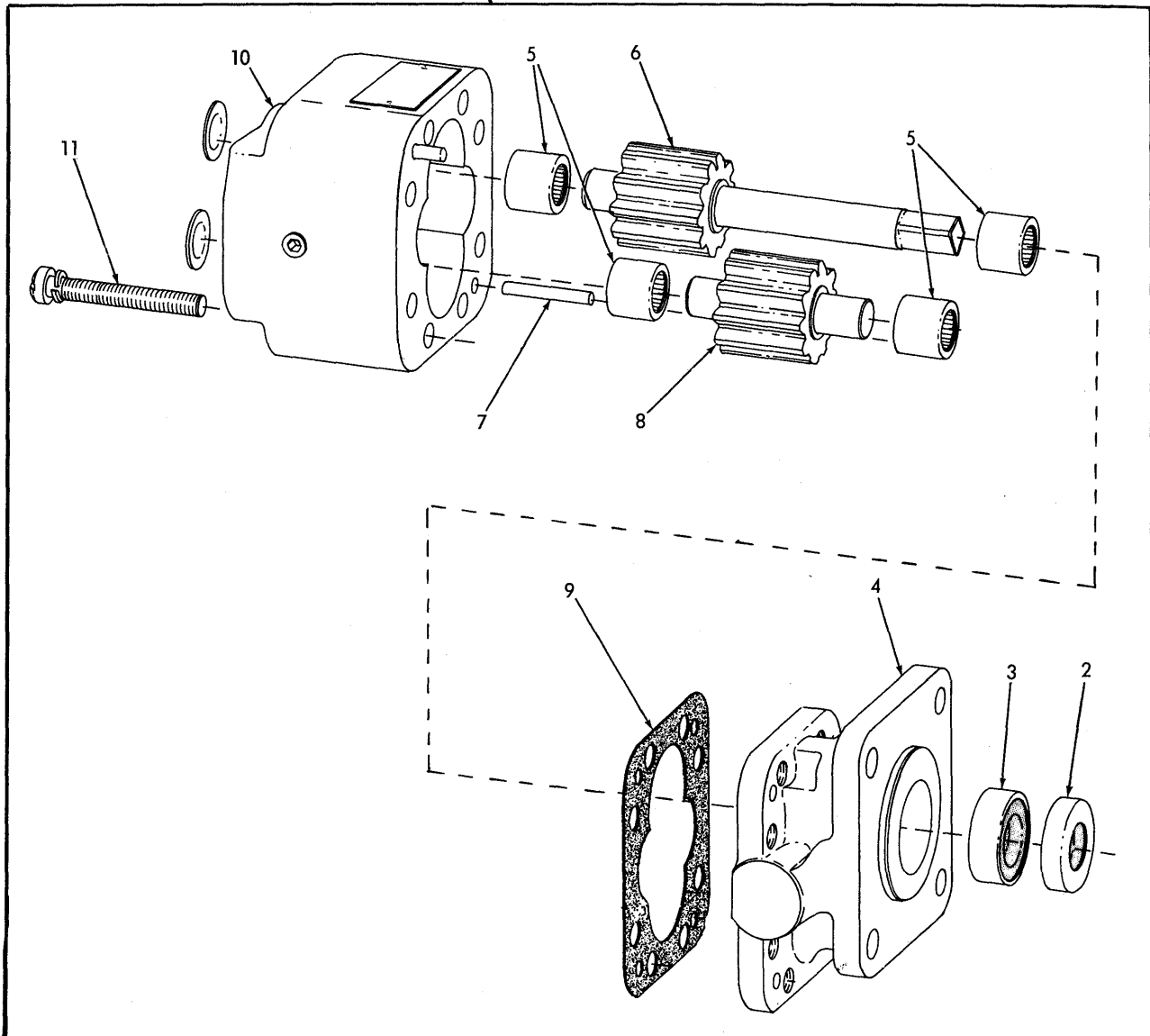
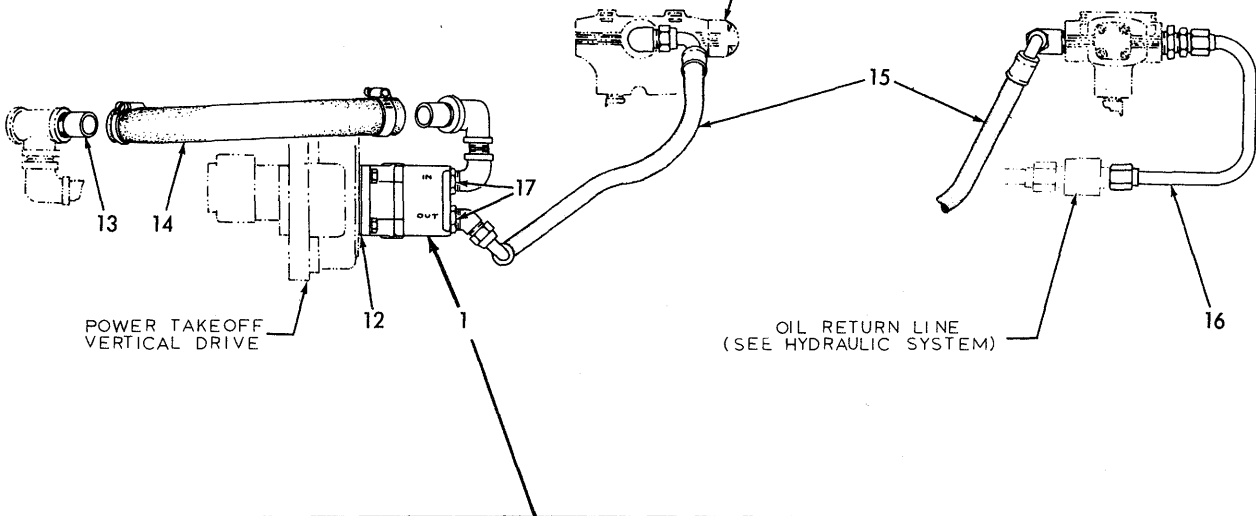
USAGE: Special equipment

ITEM	PART NO.	QTY.	DESCRIPTION
1	70091862	1	KNOB, operating lever
2	70630748	1	LEVER, valve operating, upper
3	70630689	1	SHAFT, pivot, operating lever (Not for units with hydraulic pitch control)
	70900809	1	PIN, cotter, 1/8" x 1-3/4"
4	70630690	1	BRACKET, operating lever
	70903632	3	CAPSCREW, 3/8"NC x 1-1/2"
	70904206	3	LOCKWASHER, 3/8"
	70911026	3	NUT, 3/8"NC
5	70628052	1	ROD, valve operating
6	70627451	2	PIN, valve operating rod
	70900942	2	PIN, cotter, 3/32" x 5/8"
7	70630747	1	LEVER, valve operating, lower
8	70091567	1	VALVE ASSEMBLY (Consists of items 9 thru 19)
	70903629	2	CAPSCREW, 3/8"NC x 3/4"
	70911115	2	WASHER, plain, SAE std., 3/8"
9	70081634	2	SEAL, valve spool
10	70081633	1	PIN, operating handle
	70900970	1	PIN, cotter, 1/16" x 1/2"
11	-----	1	SPOOL, valve (Not serviced separately)
12	70081635	1	SPRING, pressure relief valve
	70907856	1	PLUG, pipe, hex-socket-hd., 3/8"NPT
13	70091632	1	BALL, pressure relief
14	70091606	1	SEAT, pressure relief ball
15	70923663	1	O-RING, pressure relief ball seat
16	70081632	1	COLLAR, spool centering
17	70081631	1	SPRING, spool centering
	70901164	1	SCREW, machine, rd-hd., 1/4"NC x 3/8"
	70904204	1	LOCKWASHER, 1/4"
	70911423	1	WASHER, plain, 3/8"
18	70081630	1	BONNET, centering spring
	70901214	4	SCREW, machine, fil-hd., #8-32 x 1"
19	-----	1	HOUSING, valve (Not serviced separately)
20	70622509	1	BRACKET, valve mounting
21	70628061	2	BOLT, eye
	70904206	2	LOCKWASHER, 3/8"
	70911026	2	NUT, 3/8"NC
22	-----	-	TUBE ASSEMBLY (See MOLDBOARD POWER SHIFT PIPING)

SIDE VIEW

POWER SHIFT CONTROL VALVE

FRONT VIEW



HYDRAULIC PUMP AND LINES (Power-shift moldboard)

T-37254

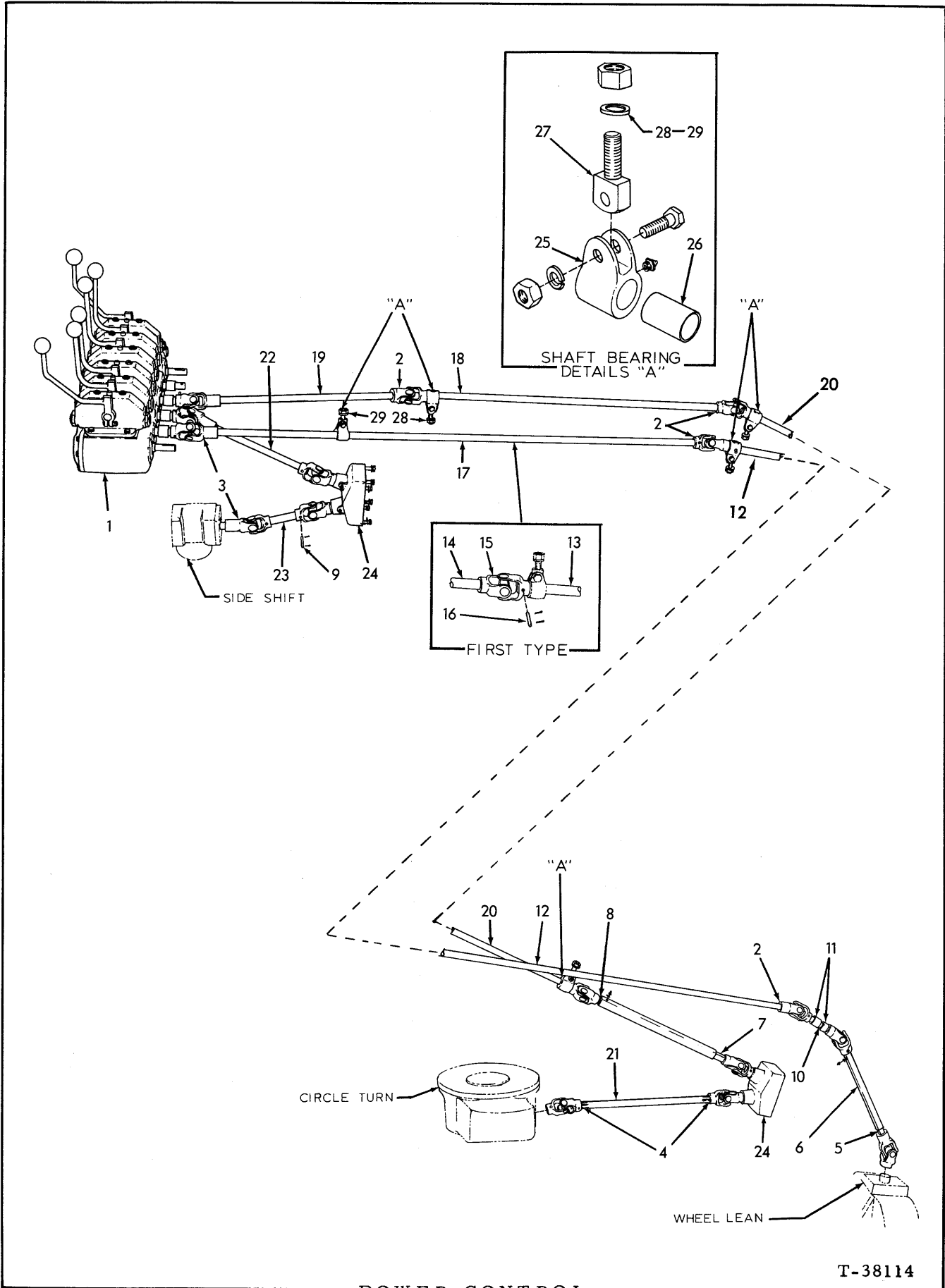
HYDRAULIC PUMP AND LINES

USAGE: Special equipment. For power-shifted moldboard only

* Used prior to October 1970
 ** Effective October 1970

ITEM	PART NO.	QTY. * **	DESCRIPTION	
1	70620676	1 -	PUMP ASSY., hydraulic	} Each consists of items 2 thru 11
	70675683	- 1	PUMP ASSY., hydraulic	
	70903626	4 4	CAPSCREW, 5/16"NC x 3/4"	
	70904205	4 4	LOCKWASHER, 5/16"	
2	70079351	1 1	SEAL, pump shaft, outer	
3	74047783	1 1	SEAL, pump shaft, inner	
4	-----	1 1	STATOR (Not serviced separately)	
5	70077241	4 4	BEARING, needle	
6	70098393	1 -	SHAFT ASSY., driving	} Each includes gear. Serviced only as a unit.
	70682508	- 1	SHAFT ASSY.,	
7	74048000	2 2	PIN, dowel, housing to stator	
8	70098394	1 -	SHAFT ASSY., idler	} Each includes gear. Serviced only as a unit
	70682503	- 1	SHAFT ASSY., idler	
9	70621363	1 1	GASKET, pump housing	
10	-----	1 1	HOUSING (Not serviced separately)	
	70092107	2 -	PLUG, expansion, 11/16" diam.	
11	70622083	8 -	SCREW ASSY. (Includes lockwasher)	
	70923448	- 8	CAPSCREW, 12-pt., 1/4"NC x 1-3/4"	
	70910285	- 8	LOCKWASHER, 1/4"	
12	74348184	1 1	GASKET, pump mounting	
13	70623363	2 2	PIPE, hose connecting	
	70631402	1 1	HOSE, suction, pump	
	70921912	2 2	CLAMP, adjustable, 1-1/16" to 2"	
	70916149	1 1	ELBOW, pipe, reducing, 90°, 3/4"NPT to 1/2"NPT	
	70901724	1 1	ELBOW, street, 90°, 1/2"NPT	
14	70901500	1 1	NIPPLE, pipe, 1/2"NPT x 1-1/8"	
	70645415	1 1	HOSE, pump to valve (See HOSE PARTS)	
	70921038	1 1	ELBOW, flare type, 45°, 1/2" tube, 3/4"NPT male	
15	70919272	1 1	ELBOW, flare type, 90°, 1/2" tube, 1/2"NPT male	
	70623565	1 -	TUBE ASSY., oil return line (Includes nuts)(Used prior to grader #780)	} Not for units with hydraulic pitch control
		70647768	1 1	
	70919128	1 1	CONNECTOR, flare type, 1/2" tube, 1/2"NPT (1 additional used on graders prior to #780)	
70901828	1 1	BUSHING, pipe reducing, 3/4"NPT to 1/2"NPT		
17	70655106	2 2	FITTING, adapting	

(Revised March 1972)



POWER CONTROL

T-38114

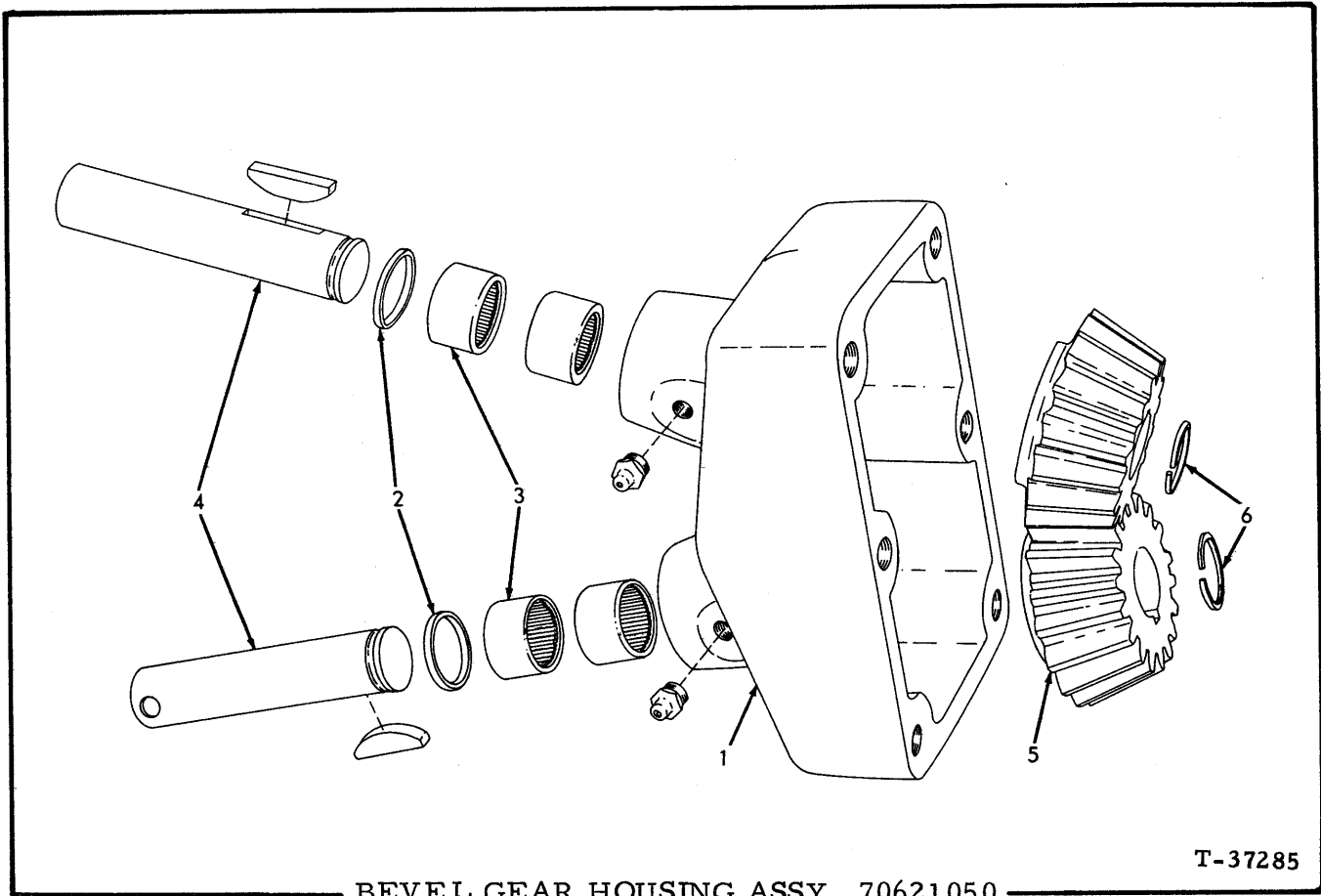
POWER CONTROL

ITEM	PART NO.	QTY.	DESCRIPTION
1	70665024	1	BOX ASSEMBLY, power control (See page 223 for parts)
2	70053121	6	JOINT ASSEMBLY, universal (See page 232 for parts)(Graders prior to #795. Order 70645181)
	70645181	6	JOINT ASSEMBLY, universal (See page 233 for parts)(Graders #795 and up)
3	70053123	4	JOINT ASSEMBLY, universal (See page 232 for parts)(Graders prior to #1017. Order 70645159)
	70645159	4	JOINT ASSEMBLY, universal (See page 233 for parts)(Graders #1017 and up)
	70911273	4	KEY, #127 woodruff, 1/4" x 2-1/8"
4	70629648	2	JOINT ASSEMBLY, universal, circle turn control (See page 232 for parts)(Graders prior to #1175 . Order 70645151)
	70645151	2	JOINT ASSEMBLY, universal, circle turn control (See page 233 for parts)(Graders #1175 and up)
5	70621089	1	JOINT ASSEMBLY, universal, front wheel lean control (See page 232 for parts)(Graders prior to #1075. Order 70645207)
	70645207	1	JOINT ASSEMBLY, universal, front wheel lean control (See page 233 for parts)(Graders #1075 and up)
6	70096624	1	JOINT ASSEMBLY, universal, front wheel lean control (See page 232 for parts)(Graders prior to #809. Order 70645199)
	70645199	1	JOINT ASSEMBLY, universal, front wheel lean control (See page 233 for parts)(Graders #809 and up)
	70912808	1	FITTING, lubricating, straight, 1/4"NF
	70911114	1	WASHER, plain, SAE std., 1/4"
7	70630105	1	JOINT ASSEMBLY, universal, circle turn control (See page 232 for parts)(Graders prior to #795. Order 70645262)
	70645262	1	JOINT ASSEMBLY, universal, circle turn control (See page 233 for parts)(Graders #795 and up)
8	70630104	1	JOINT ASSEMBLY, universal, circle turn control (See page 232 for parts)(Graders prior to #795. Order 70645261)
	70645261	1	JOINT ASSEMBLY, universal, circle turn control (See page 233 for parts)(Graders #795 and up)
	70912808	1	FITTING, lubricating, straight, 1/4"NF
	70911114	1	WASHER, plain, SAE std., 1/4"
9	70601935	23	PIN, universal joint (3/8" x 2")
	70900805	46	PIN, cotter, 1/8" x 3/4"
10	70621024	1	SHAFT, front wheel lean control (5-1/2" Long)(Graders prior to #2189)
	70656672	1	SHAFT, front wheel lean control (5-1/2" long)(Graders #2189 and up)
11	70649403	2	BUSHING, control shaft (pressed in frame)(Graders prior to #2189)
	70664443	2	BEARING, control shaft (pressed in frame)(Graders #2189 and up)
12	70621087	1	SHAFT, front wheel lean control (65" long)(Graders prior to #1001)
	70646647	1	SHAFT, front wheel lean control (69" long)(Graders #1001 and up)

(Continued)

POWER CONTROL (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION	
13	70620558	1	SHAFT, front wheel lean (47" long)	} Used prior to grader #756
14	70621086	1	SHAFT, front wheel lean (28-1/4" long)	
15	70053121	1	JOINT ASSEMBLY, universal (See page 232 for parts) (Original equipment. Order 70645181)	
	70645181	1	JOINT ASSEMBLY, universal (See page 233 for parts) (Service replacement only)	
16	70601935	2	PIN, universal joint (3/8" x 2")	
	70900805	4	PIN, cotter, 1/8" x 3/4"	
17	70645112	1	SHAFT, front wheel lean (78" long)(Effective with grader #756)	
18	70620558	1	SHAFT, circle turn control (47" long)	
19	70621086	1	SHAFT, circle turn control (28-1/4" long)	
20	70620559	1	SHAFT, circle turn control (26-3/4" long)(Graders prior to #1001)	
	70646656	1	SHAFT, circle turn control (30" long)(Graders #1001 and up)	
21	70629719	1	SHAFT, circle turn control (17-1/2" long)(Graders prior to #1001)	
	70646197	1	SHAFT, circle turn control (21-3/4" long)(Graders #1001 and up)	
22	70621043	1	SHAFT, side shift control (15-1/4" long)	
23	70621042	1	SHAFT, side shift control (7-1/2" long)	
24	70621050	2	HOUSING ASSEMBLY, bevel gear (See page 221 for parts)	
	70904541	12	CAPSCREW, 1/2"NC x 1-3/4"	
	70904208	12	LOCKWASHER, 1/2"	
25	70624761	5	BEARING ASSEMBLY, front wheel lean and circle turn control shafts (Includes item 26)	
	70914465	5	FITTING, lubricating, straight, 1/8"NPT	
	70904541	5	CAPSCREW, 1/2"NC x 1-3/4"	
	70904208	5	LOCKWASHER, 1/2"	
	70911028	5	NUT, 1/2"NC	
26	70622062	5	BUSHING, control shaft bearing (oilite bronze)	
27	70602328	5	BOLT, eye, control shaft bearing (1-5/8" long)	
	70911100	5	WASHER, plain, SAE, std., 5/8"	
	70911029	5	NUT, 5/8"NC	
28	70602448	1	WASHER, plain, 1/4" thick	
29	70916195	8	WASHER, plain, 1/32" thick (Use as required)	



BEVEL GEAR HOUSING ASSY. 70621050

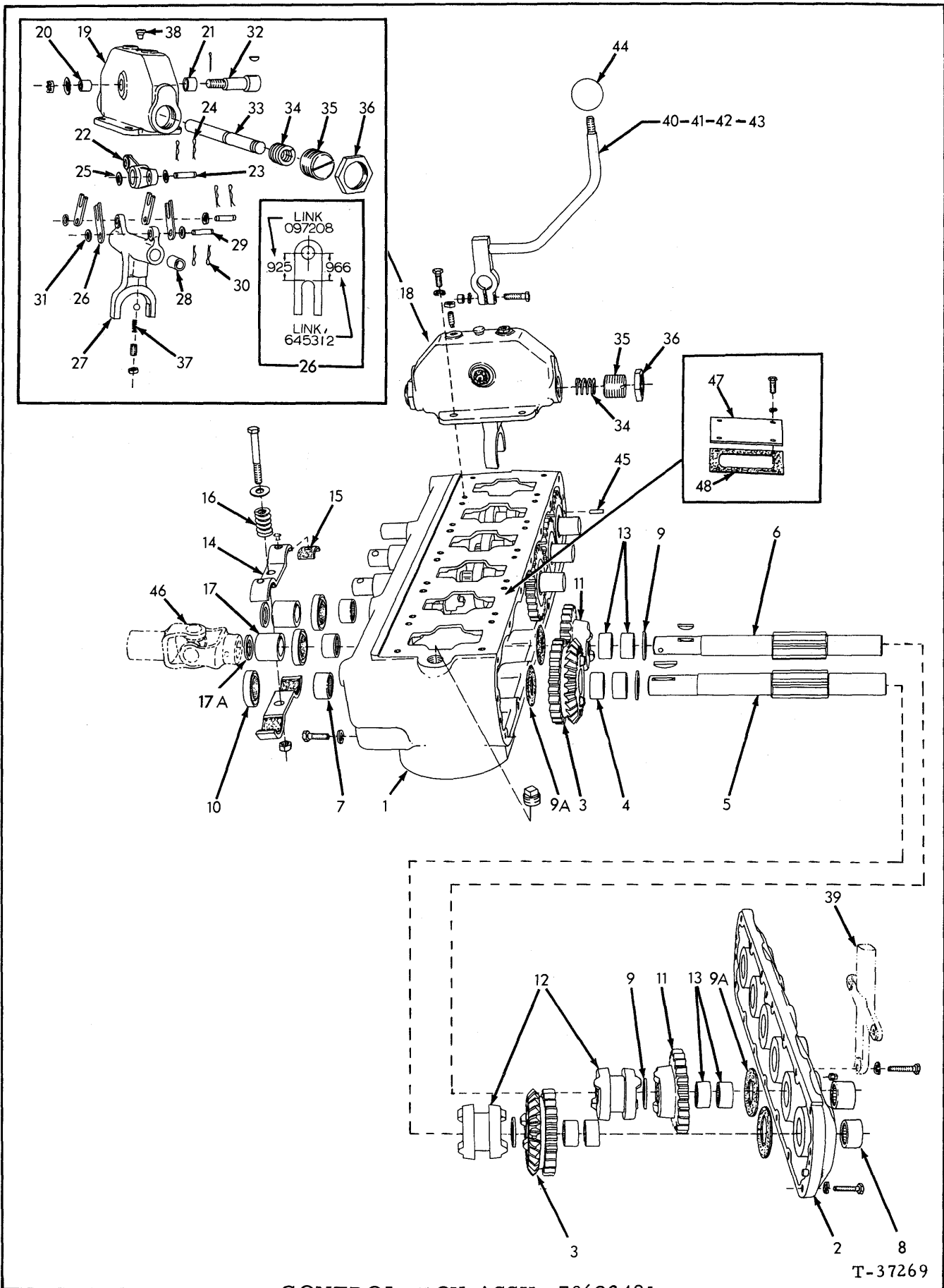
T-37285

USAGE: See page 219

ITEM PART NO. QTY. DESCRIPTION

NOTE: Quantities indicated are for one (1) unit only

1	70621048	1	HOUSING, gear
	70914465	2	FITTING, lubricating, straight, 1/8"NPT
2	70053926	2	SEAL, dust
3	70051513	4	BEARING, needle, gear shaft
4	70623074	2	SHAFT, bevel gear
	70911273	2	KEY, #127 woodruff, 1/4" x 2-1/8"
5	70621045	2	GEAR, bevel
6	70054182	2	RING, snap, gear retaining



CONTROL BOX ASSY. 70623481

T-37269

CONTROL BOX ASSEMBLY 70665024

USAGE: See page 219

ITEM	PART NO.	QTY.	DESCRIPTION
			<u>NOTE:</u> This assembly does not include the control lever parts to operate the Scarifier. For convenience, these parts are included in the quantities shown below.
1	70645525	1	BOX ASSY. (Consists of 1 BOX, 1 COVER, 2 dowel PINS 70053990, 7 CAPSCREWS 70910245 ,7 LOCKWASHERS 70904206. , 6 BEARINGS 70080325 and 6 BEARINGS 70074976)(If for graders prior to #811 also order item 9A)
	70901651	1	PLUG, pipe, 1/8"NPT (oil level)
	70912725	1	PLUG, pipe, 1/2"NPT (oil filling)
	70915987	6	CAPSCREW, 1/2"NC x 1-1/2"
	70904208	6	LOCKWASHER, 1/2"
2	-----	1	COVER, control box (Not serviced separately. Order item 1)
	70919225	15	CAPSCREW, 3/8"NC x 1-3/8"
	70910948	1	CAPSCREW, 3/8"NC x 2"(Also attaches steering shaft support)
	70904206	16	LOCKWASHER, 3/8"
3	{ 70644248	2	GEAR ASSY., power input (Includes item 4)(Graders prior to #2268)
	{ 70662526	2	GEAR ASSY., power input (Includes item 4)(Graders #2268 and up)
4	{ 70080325	4	BEARING, needle, power input gear (3/4" long)(2 less used on graders #2268 and up)
	{ 70240980	2	BEARING, needle, power input gear (1/2" long)(Graders #2268 and up)
5	70642608	2	SHAFT, power input gear and side shift drive
	70911273	2	KEY, #127 woodruff, 1/4" x 2-1/8"
6	70097523	4	SHAFT, driving
7	{ 70074975	6	BEARING, needle, driving shaft, front (1" long)(Graders prior to #811)
	{ 70080325	6	BEARING, needle, driving shaft, front (3/4" long)(Graders #811 and up)
8	70074976	6	BEARING, needle, driving shaft, rear
9	{ 70600909	12	WASHER, thrust, shafts (steel, 1/8" thick)(Graders prior to #2268)
	{ 70662524	12	WASHER, thrust, shafts (steel, 1/4" thick)(Graders #2268 and up)
9A	73128596	12	WASHER, thrust, driving and input shafts (fibre)(Graders #811 and up)
10	70044741	6	SEAL, oil driving and input shafts
11	{ 70081855	10	GEAR ASSY., clutch (Includes item 13)(Graders prior to #2268)
	{ 70662525	10	GEAR ASSY., clutch (Includes item 13)(Graders #2268 and up)
12	70641965	6	CLUTCH, sliding
13	{ 70080325	20	BEARING, needle, clutch gear (3/4" long)(10 less used on graders #2268 and up)
	{ 70240980	10	BEARING, needle, clutch gear (1/2" long)(Graders #2268 and up)
14	70604954	4	SHOE ASSY., driving shaft brake (Includes item 15)
	70920275	2	CAPSCREW, 3/8"NC x 3"
	70900817	2	WASHER, plain, U.S. std., 3/8"
	70911026	2	NUT, 3/8"NC
15	70053991	8	LINING, brake shoe
	70912312	8	RIVET, split, ctsk-hd., 5/32" x 1/2"
16	70050972	2	SPRING, brake shoe

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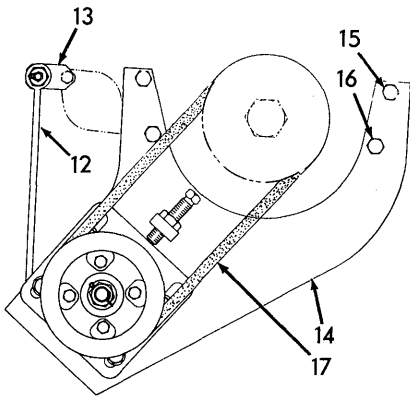
CONTROL BOX ASSEMBLY 70665024 (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
17	70097524	4	COLLAR, driving shaft brake
	70911233	4	KEY, #11 woodruff, 3/16" x 7/8"
17A	70911159	3	WASHER, plain, SAE std., 1"
18	70645310	6	FORK AND HOUSING ASSEMBLY (Consists of items 19 thru 38)
	70903630	24	CAPSCREW, 3/8"NC x 1"
	70904206	24	LOCKWASHER, 3/8"
	70917088	12	SETSCREW, slotted-hd., dog-pt., 3/8"NC x 1-1/4"
	70911034	12	NUT, jam, 3/8"NC
19	70631121	6	HOUSING ASSEMBLY, shifter (Includes items 20 and 21)
20	70063222	6	BUSHING, shifting lever shaft (1/2" I. D.)
21	70085203	6	BUSHING, shifting lever shaft (3/4" I. D.)
22	70645313	6	LEVER ASSEMBLY, shifting (Includes item 23)(If for first replacement on graders prior to #1021 also order 4 LINK 70645312 and 2 PLUG 70645311)
23	70099042	12	PIN, shifting lever
24	70098817	24	CLIP, shifting lever pin
25	70099043	24	WASHER, shifting lever pin
26	70097208	24	LINK, shifting lever (Graders prior to #1021)
	70645312	24	LINK, shifting lever (Graders #1021 and up)
27	70624616	6	FORK ASSEMBLY, shifting (Includes items 28 and 29)
28	70087751	12	BUSHING, shifting fork
29	70099042	12	PIN, shifting fork
30	70098817	24	CLIP, shifting fork pin
31	70099043	24	WASHER, shifting fork pin
32	70094885	6	SHAFT, shifting lever
	70910244	6	WASHER, plain, SAE std., 1/2"
	70913471	6	NUT, jam, slotted, 1/2"NF
	70900806	6	PIN, cotter, 1/8" x 1"
33	70630878	6	SHAFT, shifting fork
34	70648364	12	SPRING, lever centering
35	70645311	12	PLUG, lever centering spring
36	70630880	12	NUT, centering spring plug
37	70651552	6	SPRING, detent
	70905360	6	BALL, steel, 3/8" diam.
	70914480	6	SETSCREW, slotted-hd., oval-pt., 7/16"NF x 3/4"
	70910876	6	NUT, jam, 7/16"NF
38	70605132	6	VENT, air
39	-----	1	SUPPORT (See STEERING CONTROL)

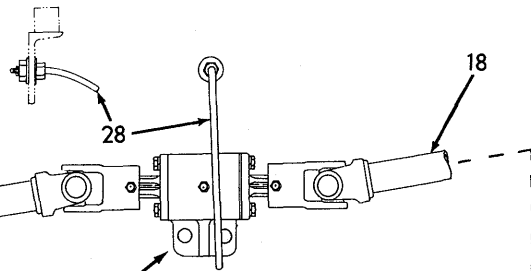
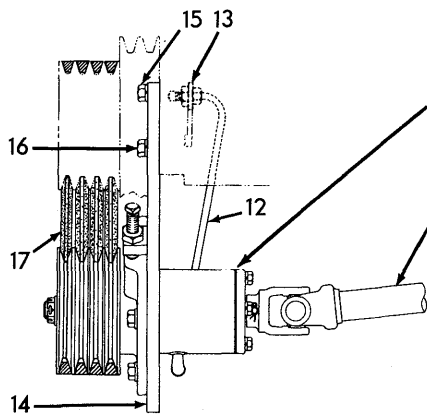
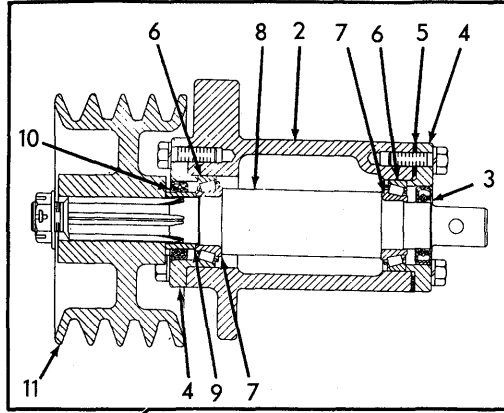
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CONTROL BOX ASSEMBLY 70665024 (Continued)

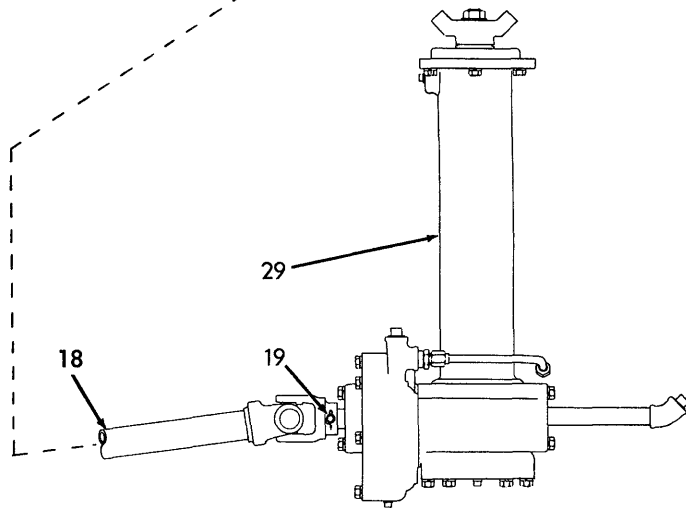
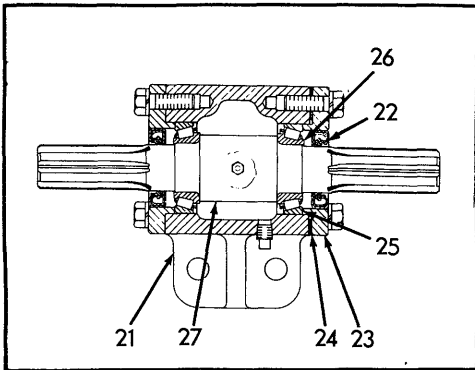
ITEM	PART NO.	QTY.	DESCRIPTION
40	70087809	2	LEVER, operating, scarifier and circle turn
	70910862	2	CAPSCREW, 3/8"NF x 1-1/2"
	70904206	2	LOCKWASHER, 3/8"
	70911041	2	NUT, 3/8"NF
	70905123	2	KEY, #9 woodruff, 3/16" x 3/4"
41	70087810	2	LEVER, operating, side shift and front wheel lean
	70910862	2	CAPSCREW, 3/8"NF x 1-1/2"
	70904206	2	LOCKWASHER, 3/8"
	70911041	2	NUT, 3/8"NF
	70905123	2	KEY, #9 woodruff, 3/16" x 3/4"
42	70630219	1	LEVER, operating, moldboard lift, left
	70910862	1	CAPSCREW, 3/8"NF x 1-1/2"
	70904206	1	LOCKWASHER, 3/8"
	70911041	1	NUT, 3/8"NF
	70905123	1	KEY, #9 woodruff, 3/16" x 3/4"
43	70630220	1	LEVER, operating, moldboard lift, right
	70910862	1	CAPSCREW, 3/8"NF x 1-1/2"
	70904206	1	LOCKWASHER, 3/8"
	70911041	1	NUT, 3/8"NF
	70905123	1	KEY, #9 woodruff, 3/16" x 3/4"
44	70091862	6	KNOB, operating lever
45	70053990	2	PIN, dowel, control box
46	-----	-	UNIVERSAL JOINT (See POWER CONTROL)
47	70097920	1	COVER, control opening (Removed when Scarifier is installed)
	70903630	4	CAPSCREW, 3/8"NC x 1"
	70904206	4	LOCKWASHER, 3/8"
48	70096658	1	GASKE T, cover



REAR VIEW



SIDE VIEW



T-37268

POWER TAKE-OFF (First type)

POWER TAKE-OFF

USAGE: Graders prior to serial No. 2181

ITEM	PART NO.	QTY.	DESCRIPTION
1	70634079	1	DRIVE ASSY. (Graders prior to #584)
	70659717	1	DRIVE ASSY. (Graders #584 and up)
	70903638	4	CAPSCREW, 1/2"NC x 1-1/4"
	70910244	4	WASHER, plain, SAE std., 1/2"
2	70633883	1	HOUSING, drive
	70916619	1	FITTING, relief, 1/8"NPT
	70901651	1	PLUG, pipe, 1/8"NPT
3	70634005	1	SEAL, drive shaft, front
4	70633944	2	CAP, drive housing
	70916272	8	CAPSCREW, 3/8"NC x 1-1/4"
	70904206	8	LOCKWASHER, 3/8"
5	70634010	6	SHIM, adjusting(.005" thick. Use as required)
	70634007	8	SHIM, adjusting (.010" thick. Use as required)
6	74254704	2	CUP, drive shaft bearing
7	74254703	2	CONE ASSY., drive shaft bearing
8	70634003	1	SHAFT, drive (Graders prior to #584)
	70656527	1	SHAFT, drive (Graders #584 and up)
	70910255	1	WASHER, plain, SAE std., 3/4"
	70913472	1	NUT, jam, slotted, 3/4"NC
	70900808	1	PIN, cotter, 1/8" x 1-1/2"
9	70634008	1	SPACER, drive shaft pulley
10	70634006	1	SEAL, drive shaft, rear
11	70637733	1	PULLEY (3 grooves)(Graders prior to #584)
	70655220	1	PULLEY (4 grooves)(Graders #584 and up)
12	70045496	1	HOSE, lubricating, drive assembly
	70907059	1	ELBOW, street, 90°, 1/8"NPT
	70911100	2	WASHER, plain, SAE std., 5/8"
	70911049	1	NUT, jam, 5/8"NF
	70915276	1	FITTING, lubricating, 90°, 1/8"NPT
13	70634291	1	CLIP, supporting, lubricating hose
14	70620861	1	BRACKET, drive mounting
	70900668	1	SETSCREW, sq.-hd., oval-pt., 5/8"NC x 3"
	70911036	1	NUT, jam, 5/8"NC
15	70915987	2	CAPSCREW, 1/2"NC x 1-1/2"
16	70917599	2	CAPSCREW, 1/2"NC x 5-1/4"
	70904208	4	LOCKWASHER, 1/2"
17	70675233	1	BELT SET, drive (Consists of 3 matched belts)(Graders prior to #584)
	70675084	1	BELT SET, drive (Consists of 4 matched belts)(Graders #584 and up)

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POWER TAKE-OFF (Continued)

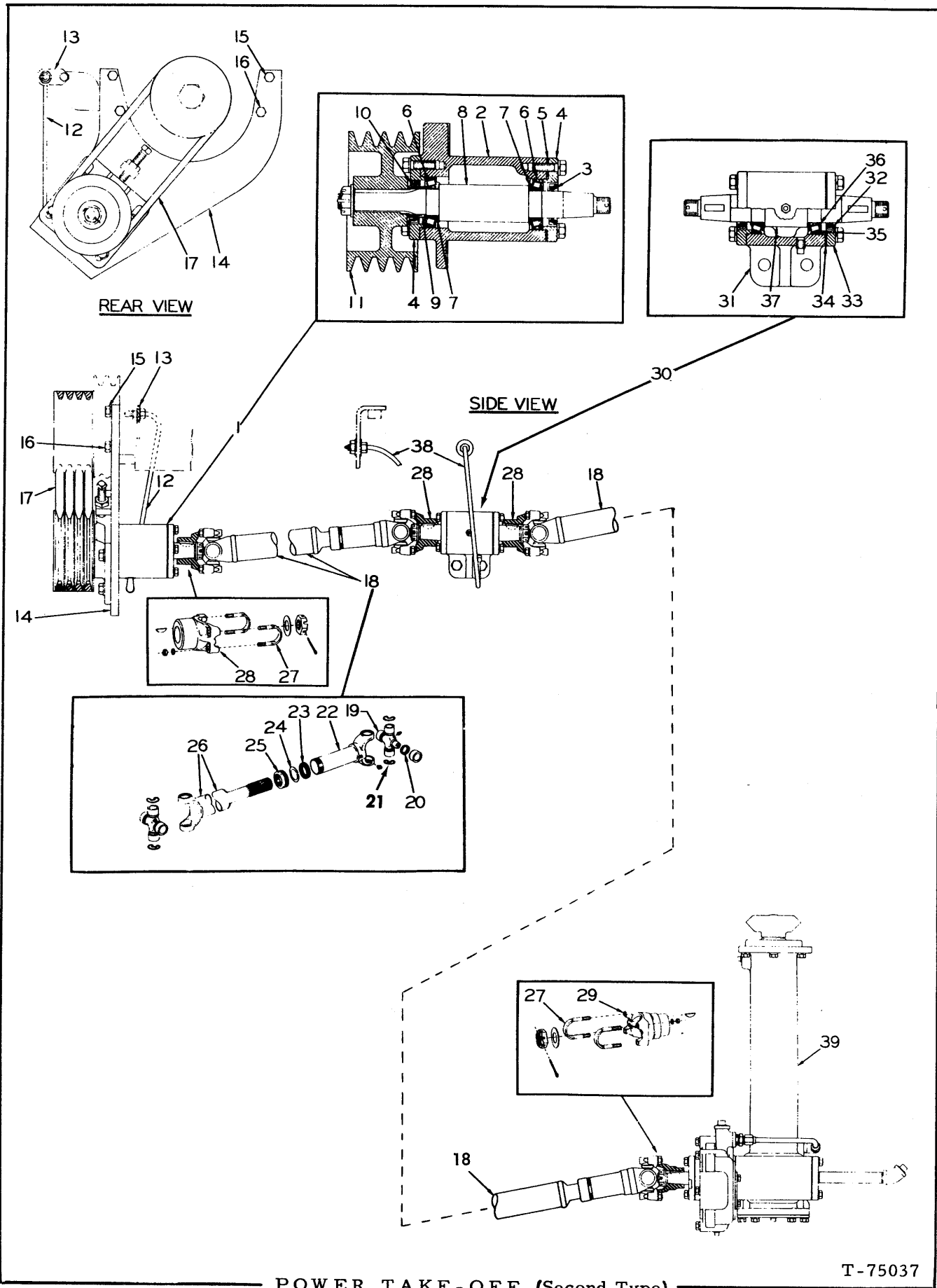
ITEM	PART NO.	QTY.	DESCRIPTION
18	70624404	2	JOINT ASSEMBLY, universal (See page 232 for parts)(Used prior to grader #1177. Order 70644938)
	70644938	2	JOINT ASSEMBLY, universal (See page 233 for parts(Graders #1177 and up)
19	70601935	2	PIN, coupling
	70900805	4	PIN, cotter, 1/8" x 3/4"
20	70634078	1	HOUSING ASSEMBLY, drive supporting (Consists of items 21 thru 27)
	70916311	2	CAPSCREW, 1/2"NC x 1-1/4"
	70904208	2	LOCKWASHER, 1/2"
21	70633945	1	HOUSING, drive supporting
	70916619	1	FITTING, relief, 1/8"NPT
	70901651	1	PLUG, pipe, 1/8"NPT
22	70634005	2	SEAL, drive coupling shaft
23	70633944	2	CAP, drive support housing
	70916272	8	CAPSCREW, 3/8"NC x 1-1/4"
	70904206	8	LOCKWASHER, 3/8"
24	70634010	6	SHIM, adjusting (.005" thick. Use as required)
	70634007	8	SHIM, adjusting (.010" thick. Use as required)
25	74254704	2	CUP, coupling shaft bearing
26	74254703	2	CONE ASSEMBLY, coupling shaft bearing
27	70650284	1	SHAFT, drive coupling
28	70045496	1	HOSE, lubricating, drive support assembly
	70911100	2	WASHER, plain, SAE std., 5/8"
	70911049	1	NUT, jam, 5/8"NF
	70914465	1	FITTING, lubricating, straight, 1/8"NPT
29	-----	1	See POWER TAKE-OFF VERTICAL DRIVE

POWER TAKE-OFF

USAGE: Graders serial No. 2181 and up

ITEM	PART NO.	QTY.	DESCRIPTION
1	70664966	1	DRIVE ASSEMBLY (Consists of items 2 thru 11)
	70916311	4	CAPSCREW, 1/2"NC x 1-1/4"
	70910244	4	WASHER, plain, SAE std., 1/2"
2	70633883	1	HOUSING, drive
	70916619	1	FITTING, relief, 1/8"NPT
	70901651	1	PLUG, pipe, 1/8" NPT
3	70236065	1	SEAL, drive shaft, front
4	70633944	2	CAP, drive housing
	70916272	8	CAPSCREW, 3/8"NC x 1-1/4"
	70904206	8	LOCKWASHER, 3/8"
5	70634010	6	SHIM, bearing adjustment (.005" thick. Use as required)
	70634007	8	SHIM, bearing adjustment (.010" thick. Use as required)
6	74254704	2	CUP, drive shaft bearing
7	74254703	2	CONE ASSEMBLY, drive shaft bearing
8	70664964	1	SHAFT, drive
	70910255	1	WASHER, plain, SAE std., 3/4"
	70913472	1	NUT, jam, slotted, 3/4"NC
	70900807	1	PIN, cotter 1/8" x 1-1/4"
9	70634008	1	SPACER, drive shaft pulley
10	70634006	1	SEAL, drive shaft, rear
11	70655220	1	PULLEY
12	70045496	1	HOSE, lubricating, drive assembly
	70907059	1	ELBOW, street, 90°, 1/8"NPT
	70911100	2	WASHER, plain, SAE std., 5/8"
	70911049	1	NUT, jam, 5/8"NF
	70915276	1	FITTING, lubricating, 90°, 1/8"NPT
13	70634291	1	CLIP, supporting, lubricating hose
14	70620861	1	BRACKET, drive mounting
	70900668	1	SETSCREW, sq.-hd., oval-pt., 5/8"NC x 3"
	70911036	1	NUT, jam, 5/8"NC
15	70915987	2	CAPSCREW, 1/2"NC x 1-1/2"
16	70917599	2	CAPSCREW, 1/2"NC x 5-1/4"
	70904208	4	LOCKWASHER, 1/2"
17	70675084	1	BELT SET, drive (Consists of 4 matched belts)
18	70665764	2	JOINT ASSEMBLY, universal (Consists of items 19 thru 26 and FITTING indented below)
	70914687	2	FITTING, lubricating, 1/4"NF
19	70617512	4	SPIDER ASSEMBLY (Includes bearings, items 20, 21 and FITTING indented below)
	70914687	4	FITTING, lubricating, 1/4"NF
20	70617892	16	SEAL, spider bearing

(Continued)



POWER TAKE-OFF (Second Type)

T-75037

POWER TAKE - OFF (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
21	70617518	16	RING, snap
22	-----	2	YOKE, universal joint (female spline)(Order item 18)
23	70666361	2	WASHER, sealing, universal joint yoke (cork)
24	70666360	2	WASHER, split, universal joint yoke (steel)
25	70666362	2	CAP, universal joint yoke
26	-----	2	YOKE, universal joint (male spline)(Order item 18)
27	70665792	8	U-BOLT, universal joint
	70913636	16	NUT, 5/16"NF
	70904205	16	LOCKWASHER, 5/16"
28	70665766	3	YOKE universal joint, rear
	70910156	3	KEY, #C, 5/16" x 1-1/8"
	70913472	3	NUT, jam, slotted, 3/4"NF
	70900807	3	PIN, cotter, 1/8" x 1-1/4"
	70910255	3	WASHER, plain, SAE std., 3/4"
29	70665765	1	YOKE, universal joint, front
	70905845	1	KEY, #A, 1/8" x 7/8"
	70913472	1	NUT, jam, slotted, 3/4"NF
	70900807	1	PIN, cotter, 1/8" x 1-1/4"
	70910255	1	WASHER, plain, SAE std., 3/4"
30	70664967	1	HOUSING ASSEMBLY, drive supporting (Consists of items 31 thru 37)
	70916311	2	CAPSCREW, 1/2"NC x 1-1/4"
	70904208	2	LOCKWASHER, 1/2"
31	70633945	1	HOUSING, drive supporting
	70916619	1	FITTING, relief, 1/8"NPT
	70901651	1	PLUG, pipe, 1/8"NPT
32	70236065	2	SEAL, drive coupling shaft
33	70633944	2	CAP, drive support housing
	70916272	8	CAPSCREW, 3/8"NC x 1-1/4"
	70904206	8	LOCKWASHER, 3/8"
34	{ 70634010	6	SHIM, bearing adjustment (.005" thick. Use as required)
	{ 70634007	8	SHIM, bearing adjustment (.010" thick. Use as required)
35	74254704	2	CUP, coupling shaft bearing
36	74254703	2	CONE ASSEMBLY, coupling shaft bearing
37	70664965	1	SHAFT, drive coupling
38	70045496	1	HOSE, lubricating, drive support assembly
	70911100	2	WASHER, plain,SAE std., 5/8"
	70911049	1	NUT, jam, 5/8" NF
	70914465	1	FITTING, lubricating, straight, 1/8"NPT
39	-----	1	See POWER TAKE-OFF VERTICAL DRIVE

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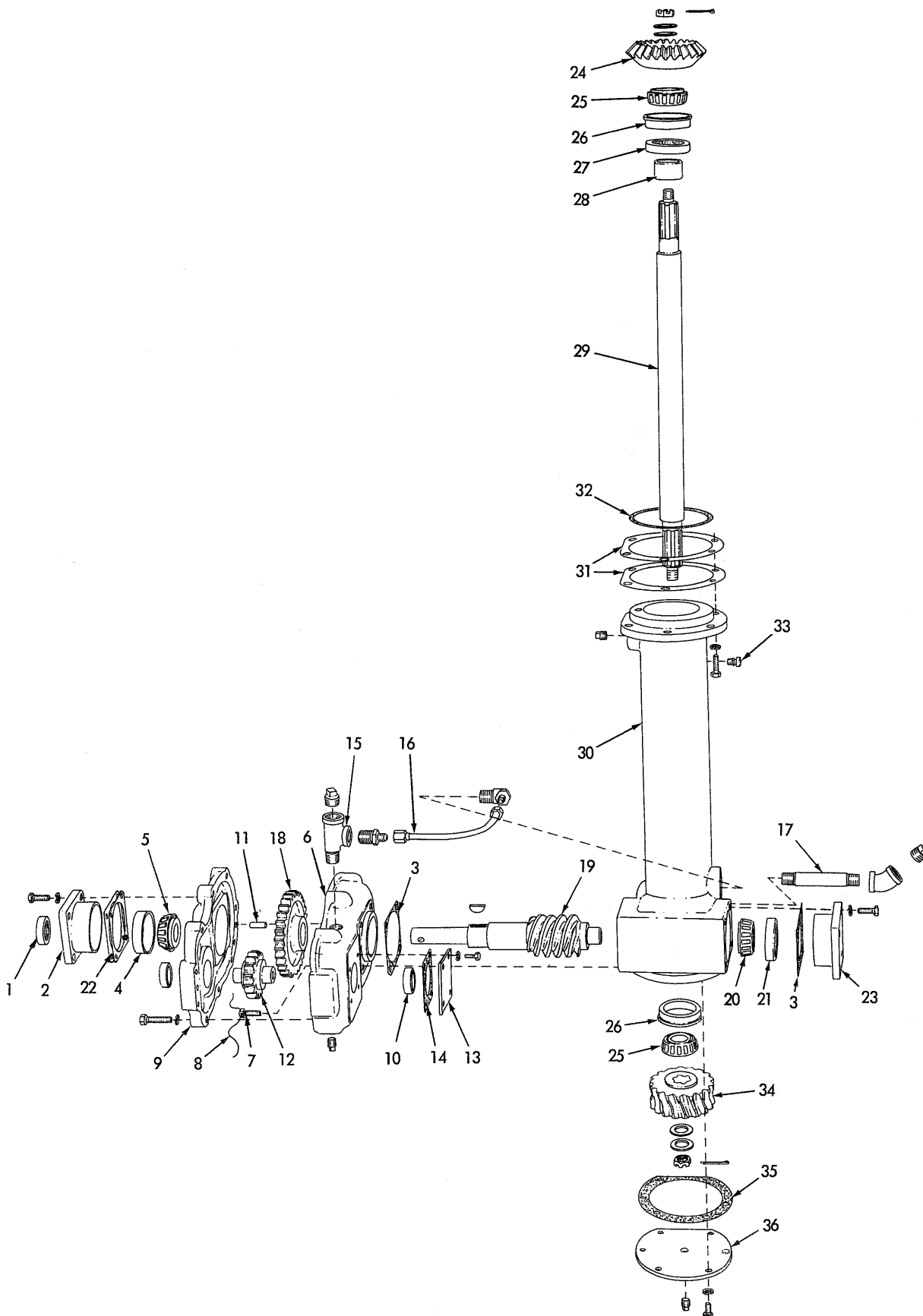
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POWER TAKE-OFF VERTICAL DRIVE

ITEM	PART NO.	QTY.	DESCRIPTION
1	70620785	1	SEAL, oil
2	70620715	1	CAP, bearing retaining, rear
	70916272	4	CAPSCREW, 3/8"NC x 1-1/4"
	70904206	4	LOCKWASHER, 3/8"
3	70620808	2	GASKET, housing
4	70604383	1	CUP, worm bearing, rear
5	70604382	1	CONE ASSEMBLY, worm, rear
6	70620653	1	HOUSING ASSEMBLY (Consists of 1 HOUSING, 1 COVER, 2 dowel PIN 70053990, 4 CAPSCREW 70914847, 4 LOCKWASHER 70904206 and 2 BUSHING 70620786)
	70901652	1	PLUG, pipe, 1/4"NPT (oil drain)
7	70069010	4	CAPSCREW, drilled-hd., 3/8"NC x 1"
8	70023633	2	WIRE, locking, 1/16" x 12"
9	-----	1	COVER, housing (Not serviced separately. Order item 6)
	70914847	8	CAPSCREW, 3/8"NC x 1-1/2"
	70904206	8	LOCKWASHER, 3/8"
10	70620786	2	BUSHING, pump driving gear
11	70053990	2	PIN, dowel, housing
12	70620674	1	GEAR, pump driving
13	70622677	1	COVER, pump driving gear compartment
	70916277	4	CAPSCREW, 5/16"NC x 5/8"
	70904205	4	LOCKWASHER, 5/16"
14	70075029	1	GASKET, cover
15	70914087	1	TEE, oil filler (1/2" NPT)
	70912725	1	PLUG, pipe, 1/2"NPT
16	70634572	1	TUBE ASSEMBLY (Includes nuts)
	70919127	1	CONNECTOR, flare type, 3/8" tube, 1/2"NPT male
	70922322	1	ELBOW, street, 3/8" tube, 1/2"NPT male
17	70620809	1	PIPE, oil level check
	70901693	1	ELBOW, pipe, 45°, 1/2"NPT
	70912725	1	PLUG, pipe, 1/2"NPT
18	70620673	1	GEAR, drive
19	70620507	1	WORM, gear driving (Graders prior to #2181)
	70664922	1	WORM, gear driving (Graders #2181 and up)
	70905126	1	KEY, #15 woodruff, 1/4" x 1"
20	70620787	1	CONE ASSEMBLY, worm, front
21	70241380	1	CUP, worm bearing, front
22	70620807	6	SHIM, bearing adjustment (.002" thick. Use as req'd)
	70620806	4	SHIM, bearing adjustment (.010" thick. Use as req'd)

(Continued)

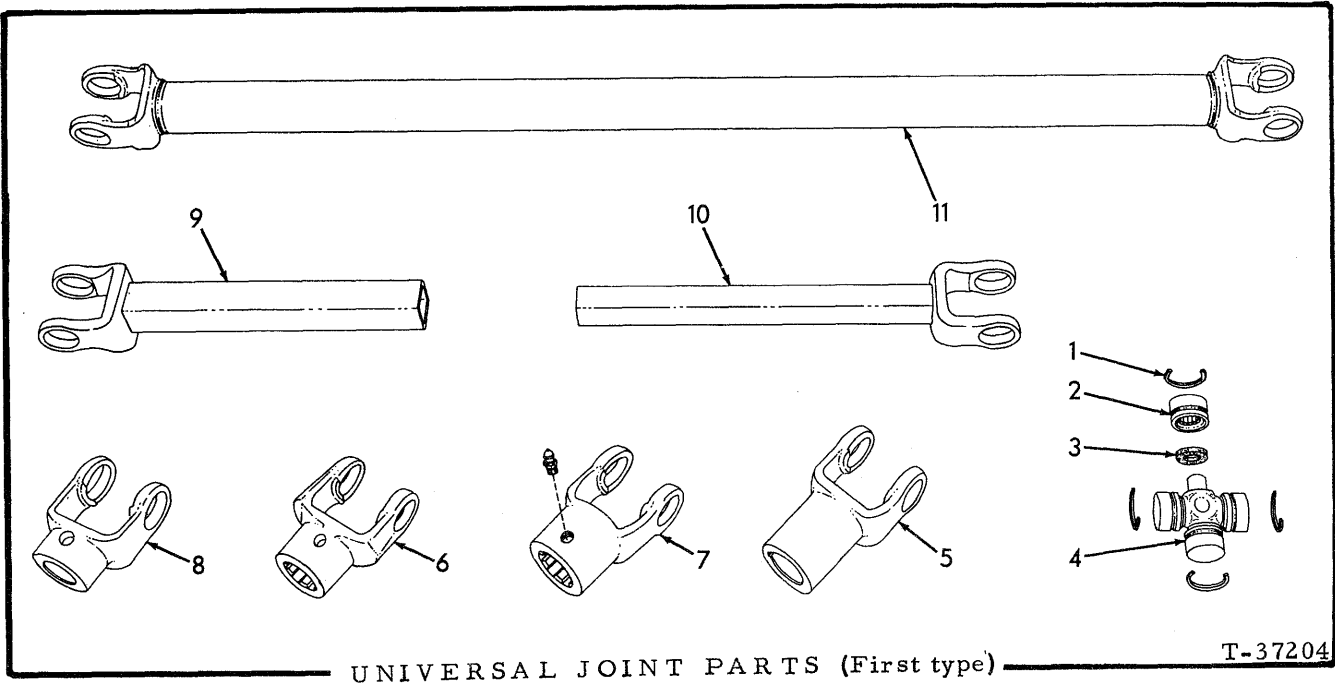


POWER TAKE-OFF VERTICAL DRIVE

T-38115

POWER TAKE-OFF VERTICAL DRIVE (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
23	70620714	1	CAP, bearing retaining, front
	70916272	4	CAPSCREW, 3/8"NC x 1-1/4"
	70904206	4	LOCKWASHER, 3/8"
24	70620766	1	PINION, bevel
25	70604923	2	CONE ASSEMBLY, vertical shaft
26	70620805	2	CUP, bearing, vertical shaft
27	70620784	1	SEAL, oil
28	70620788	1	SPACER, vertical shaft
29	70620782	1	SHAFT ASSEMBLY, vertical (Includes item 28)
	70911100	4	WASHER, plain, SAE std., 5/8"
	70913470	2	NUT, jam, slotted, 5/8"NF
	70900807	2	PIN, cotter, 1/8" x 1-1/4"
30	70620506	1	HOUSING, vertical shaft
	70901652	1	PLUG, pipe, 1/4"NPT
	70916272	6	CAPSCREW, 3/8"NC x 1-1/4"
	70904206	6	LOCKWASHER, 3/8"
31	70620803	2	SHIM, adjusting (.002" thick. Use as required)
	70620802	4	SHIM, adjusting (.010" thick. Use as required)
32	70923819	1	O-RING, vertical shaft housing
33	70634161	1	VENT, vertical shaft housing
34	70620710	1	GEAR, worm
35	70620810	1	GASKET, cover
36	70620812	1	COVER, vertical shaft housing
	70901652	1	PLUG, pipe, 1/4"NPT (oil drain)
	70915408	6	CAPSCREW, 3/8"NC x 3/4"
	70906960	6	LOCKWASHER, int.-tooth, 3/8"



UNIVERSAL JOINT PARTS (First type)

T-37204

- 70053121 JOINT ASSEMBLY (See pages 161, 219, 220, 283)
- 70053123 JOINT ASSEMBLY (See pages 161, 219, 283)
- 70096624 JOINT ASSEMBLY (See pages 219)
- 70621089 JOINT ASSEMBLY (See page 219)
- 70624404 JOINT ASSEMBLY (See page 227)
- 70629648 JOINT ASSEMBLY (See page 219)
- 70630104 JOINT ASSEMBLY (See page 219)
- 70630105 JOINT ASSEMBLY (See page 219)

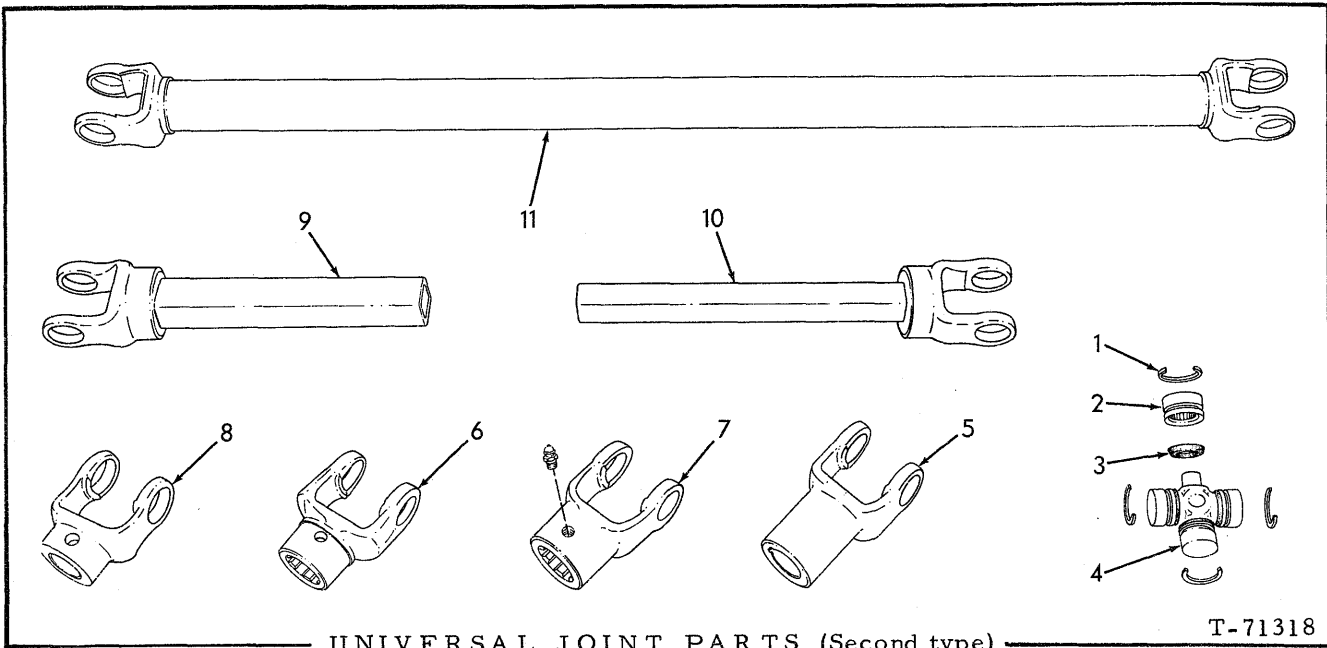
ITEM PART NO.	QUANTITY
70053121	1
70053123	1
70096624	1
70621089	1
70624404	1
70629648	1
70630104	1
70630105	1

DESCRIPTION

NOTE: Service parts for main drive universal joint are listed on page 107

1	70053240	4	4	4	4	8	4	4	4	RING, snap
2	-----	4	4	4	4	8	4	4	4	BEARING (Not serviced separately. Order item 4)
3	70055733	4	4	4	4	8	4	4	4	WASHER, sealing (cork)
4	70053120	1	1	1	1	-	1	1	1	SPIDER KIT (Includes items 1 thru 3)
	70631383	-	-	-	-	2	-	-	-	SPIDER KIT (Includes items 1 thru 3; also FITTING indented below)
	70915275	-	-	-	-	2	-	-	-	FITTING, lubricating, 65°, 1/8"NPT
5	70053122	-	1	-	-	-	-	-	-	YOKE (keywayed bore)
6	70629653	-	-	-	-	-	1	-	-	YOKE (splined bore)
7	70631381	-	-	-	-	1	-	-	-	YOKE (splined bore)
	70914465	-	-	-	-	1	-	-	-	FITTING, lubricating, straight, 1/8"NPT
8	70053119	2	1	1	1	-	1	1	1	YOKE (plain bore)
	70631382	-	-	-	-	1	-	-	-	YOKE (plain bore)
9	70096614	-	-	1	-	-	-	-	-	TUBE (Includes welded yoke)
	-----	-	-	-	-	-	1	-	-	TUBE (Order 70645261 JOINT ASSEMBLY)
10	-----	-	-	-	1	-	-	-	-	SHAFT (Order 70645207 JOINT ASSEMBLY)
	-----	-	-	-	-	-	-	1	-	SHAFT (Order 70645262 JOINT ASSEMBLY)
11	70624403	-	-	-	-	1	-	-	-	TUBE, center (Includes welded yokes)

(Revised May 1978)



UNIVERSAL JOINT PARTS (Second type)

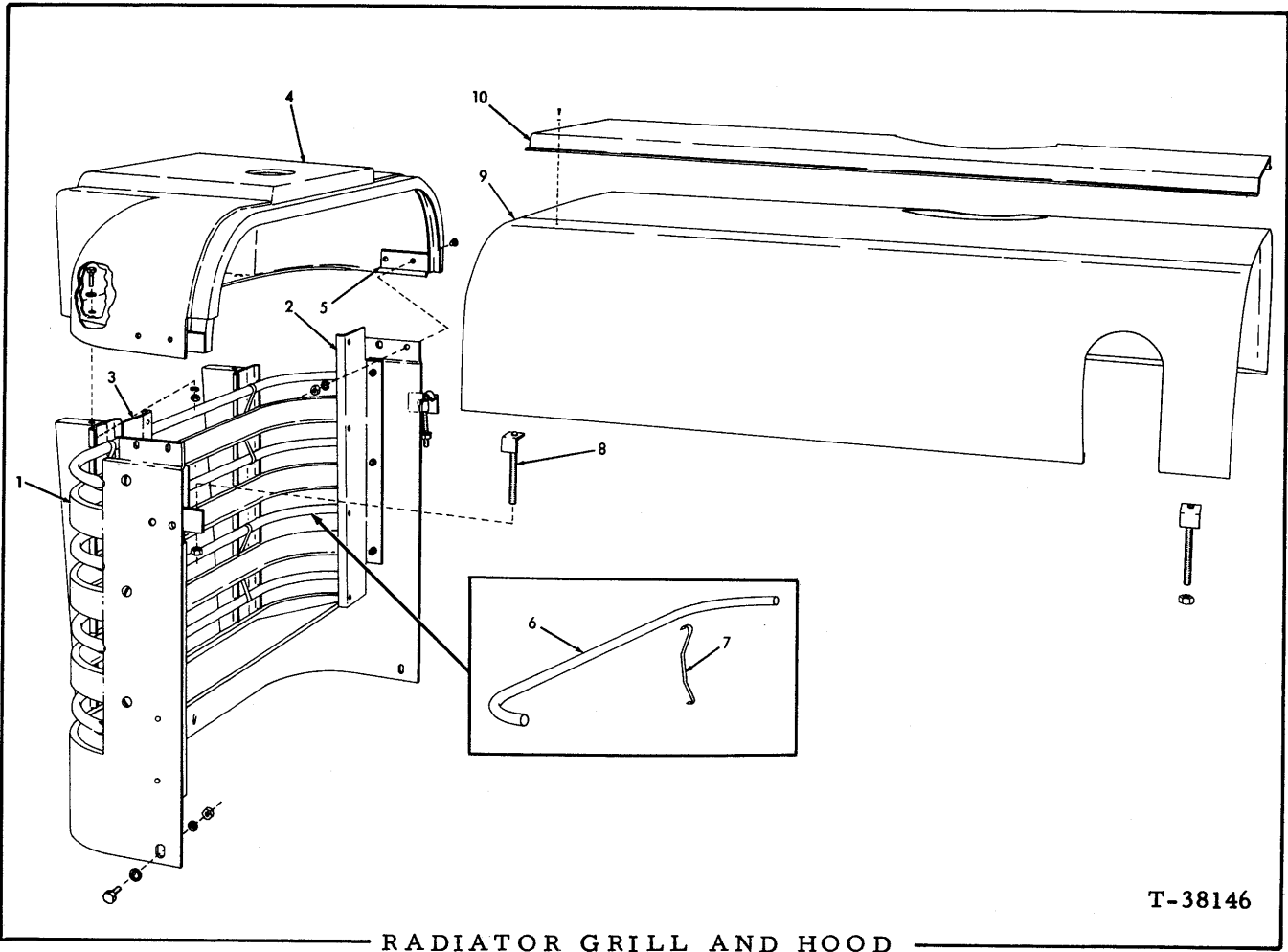
T-71318

- 70645151 JOINT ASSY. (See page 219)
- 70645159 JOINT ASSY. (See pages 161, 219, 283)
- 70645181 JOINT ASSY. (See pages 161, 219, 220, 283)
- 70645199 JOINT ASSY. (See page 219)
- 70645207 JOINT ASSY. (See page 219)
- 70645261 JOINT ASSY. (See page 219)
- 70645262 JOINT ASSY. (See page 219)
- 70644938 JOINT ASSY. (See page 227)

ITEM	PART NO.	QUANTITY								DESCRIPTION
		70645151	70645159	70645181	70645199	70645207	70645261	70645262	70644938	
1	70645097	4	4	4	4	4	4	4	8	RING, snap
2	-----	4	4	4	4	4	4	4	8	BEARING (Not serviced separately. Order item 4)
3	70645096	4	4	4	4	4	4	4	8	SEAL, rubber
4	70645053	1	1	1	1	1	1	1	-	SPIDER KIT (Includes items 1 thru 3)
	70648366	-	-	-	-	-	-	-	2	SPIDER KIT (Includes items 1 thru 3; also FITTING indented below)
	70915275	-	-	-	-	-	-	-	2	FITTING, lubricating, 65°, 1/8"NPT
5	70645131	-	1	-	-	-	-	-	-	YOKE (keywayed bore)
6	70645129	1	-	-	-	-	-	-	-	YOKE (splined bore)
7	70644948	-	-	-	-	-	-	-	1	YOKE (splined bore)
	70914465	-	-	-	-	-	-	-	1	FITTING, lubricating, straight, 1/8"NPT
8	70645051	1	1	2	1	1	1	1	-	YOKE (plain bore)
	70644947	-	-	-	-	-	-	-	1	YOKE (plain bore)
9	70645196	-	-	-	1	-	-	-	-	TUBE (Includes welded yoke)
	-----	-	-	-	-	-	1	-	-	TUBE (Not serviced separately)
10	70645206	-	-	-	-	1	-	-	-	SHAFT (Includes welded yoke)
	-----	-	-	-	-	-	-	1	-	SHAFT (Not serviced separately)
11	70645357	-	-	-	-	-	-	-	1	TUBE, center (Includes welded yokes)

NOTE: Service parts for main drive universal joint are listed on page 91

NOTE: Joints of this design have marking "NP" stamped on each yoke.



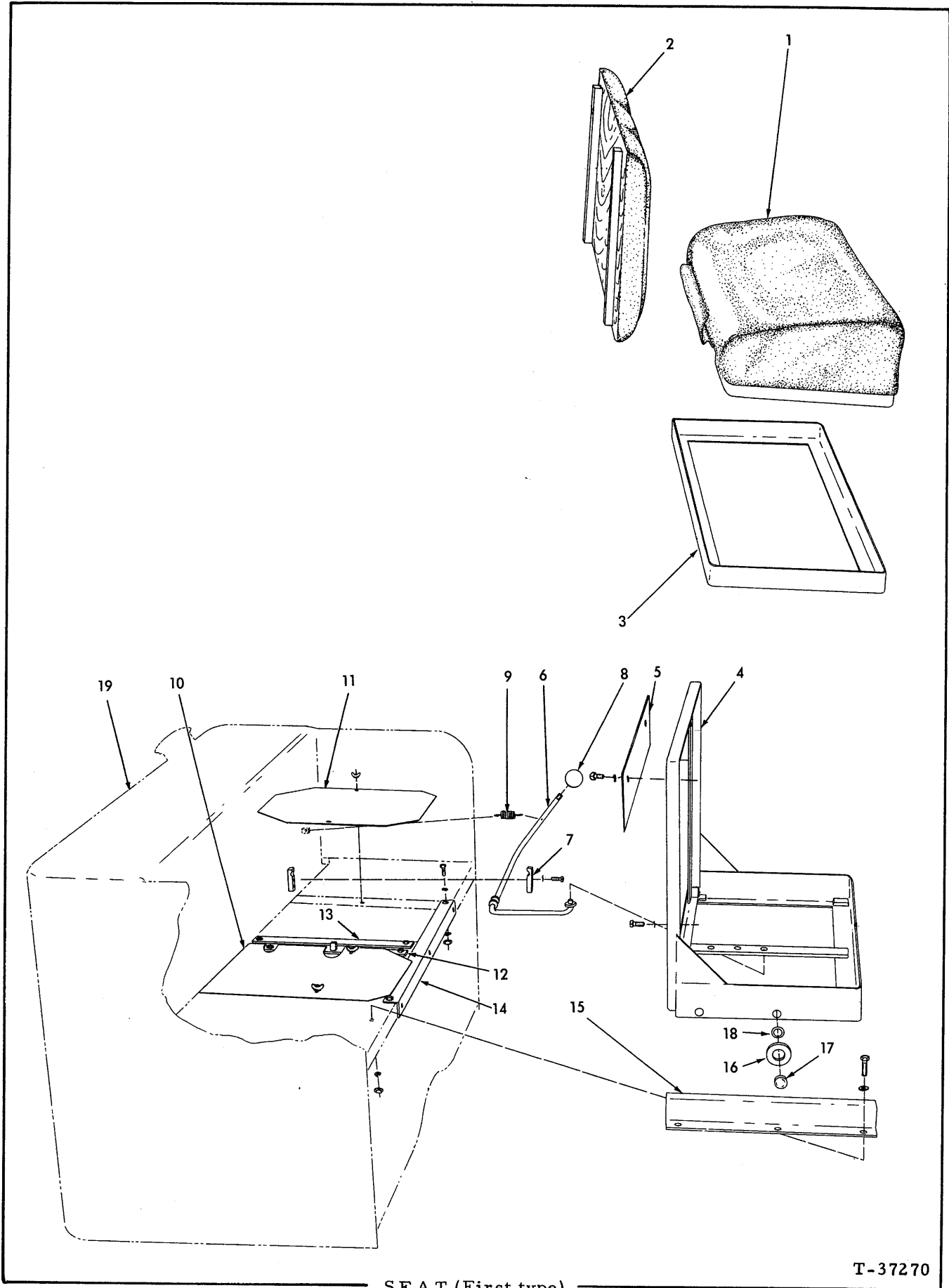
T-38146

RADIATOR GRILL AND HOOD

RADIATOR GRILL AND HOOD

ITEM	PART NO.	QTY.	DESCRIPTION
-	70631296	1	SHELL ASSY., radiator (Includes items 1 thru 4, 6 and 7)
1	70639360	1	GRILL, radiator (Graders prior to #514)
	70643889	1	GRILL, radiator (Graders #514 and up)
	70916271	4	CAPSCREW, 3/8"NC x 1"
	70911115	4	WASHER, plain, SAE std., 3/8"
	70904206	4	LOCKWASHER, 3/8"
	70911026	4	NUT, 3/8"NC
2	70639363	1	SUPPORT, radiator, left side
	70900561	3	SCREW, machine, 5/16"NC x 3/4"
	70904205	3	LOCKWASHER, 5/16"
	70911025	3	NUT, 5/16"NC
3	70640191	1	SUPPORT, radiator, right side
	70900561	3	SCREW, machine, 5/16"NC x 3/4"
	70904205	3	LOCKWASHER, 5/16"
	70911025	3	NUT, 5/16"NC
4	70639359	1	TOP, radiator grill (Graders prior to #514)
	70643920	1	TOP, radiator grill (Graders #514 and up)
	70903626	2	CAPSCREW, 5/16"NC x 3/4"
	70900561	4	SCREW, machine, 5/16"NC x 3/4"
	70910335	2	WASHER, plain, SAE std., 5/16"
	70904205	6	LOCKWASHER, 5/16"
	70911025	6	NUT, 5/16"NC
5	70640192	1	CHANNEL, reinforcing, grill top (Graders prior to #514)
6	70639361	4	TUBE, radiator grill
7	70639362	4	CLIP, radiator grill tube
8	70605956	4	BOLT, hook
	70911026	6	NUT, 3/8"NC
9	70620979	1	HOOD, engine (Standard on graders prior to unit #05001)
	70644548	1	HOOD, engine (For graders equipped with turbocharger prior to unit #05190 excluding unit #05130 thru #05157)
	70669399	1	HOOD, engine (Standard on graders unit #05190 and up including #05130 thru #05157)
10	70620978	1	PLATE, engine hood (Standard on graders prior to unit #05001)
	70644552	1	PLATE, engine hood (Standard on graders unit #05001 and up; also special on graders prior to unit #05001 for graders equipped with turbocharger)
	70907618	9	SCREW, rd-hd., thread-cutting, #8 x 1/4"

NOTE: See PAINTING AND MARKING for transfer



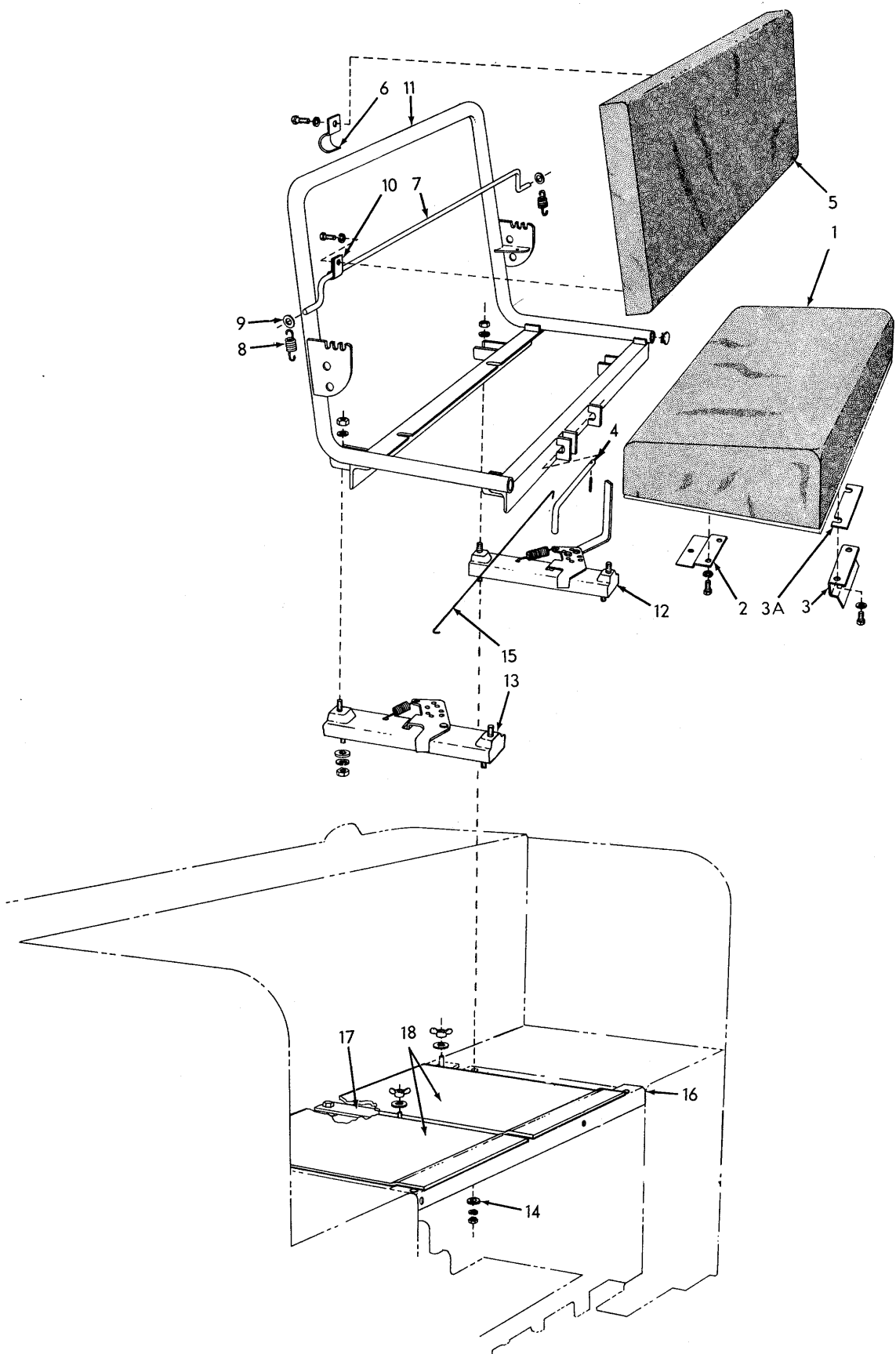
SEAT (First type)

T-37270

S E A T

USAGE: Graders prior to serial No. 1209

ITEM	PART NO.	QTY.	DESCRIPTION
1	70630998	1	CUSHION, seat
2	70630997	1	CUSHION, back
	70903630	4	CAPSCREW, 3/8"NC x 1"
	70904206	4	LOCKWASHER, 3/8"
3	70631006	1	FRAME, seat cushion (Used prior to grader #1135)
4	70630999	1	FRAME, seat
5	70648892	1	PLATE, closure, seat frame
6	70631594	1	ROD, seat adjustment
7	70631593	2	BLOCK, supporting, seat adjusting rod
	70903630	4	CAPSCREW, 3/8"NC x 1"
	70904206	4	LOCKWASHER, 3/8"
8	70091862	1	KNOB, seat adjusting rod
9	70088428	1	SPRING, seat adjusting rod
10	70631995	1	PLATE, cover, battery compartment, right
	70915015	2	NUT, wing, 1/4"NC
11	70621138	1	PLATE, cover, battery compartment, left
	70915015	2	NUT, wing, 1/4"NC
12	70631986	1	PLATE, supporting, battery compartment right cover
	70903630	2	CAPSCREW, 3/8"NC x 1"
	70911115	2	WASHER, plain, SAE std., 3/8"
	70904206	2	LOCKWASHER, 3/8"
	70911026	2	NUT, 3/8"NC
13	70631983	1	PLATE, supporting, battery compartment left cover
	70903630	2	CAPSCREW, 3/8"NC x 1"
	70911115	2	WASHER, plain, SAE std., 3/8"
	70904206	2	LOCKWASHER, 3/8"
	70911026	2	NUT, 3/8"NC
14	70631977	1	ANGLE, supporting, battery compartment covers
	70903630	2	CAPSCREW, 3/8"NC x 1"
	70911115	2	WASHER, plain, SAE std., 3/8"
	70904206	2	LOCKWASHER, 3/8"
	70911026	2	NUT, 3/8"NC
15	70621139	2	GUARD, seat frame roller
	70903775	2	CAPSCREW, 3/8"NC x 7/8"
	70910211	4	CAPSCREW, 3/8"NC x 1-1/8"
	70900817	6	WASHER, plain, U.S. std., 3/8"
	70904206	4	LOCKWASHER, 3/8"
	70911026	4	NUT, 3/8"NC
16	70075379	4	ROLLER, seat frame
17	70075378	4	BEARING, needle, seat frame roller
18	70052662	4	SEAL, dust, seat frame roller bearing
19	-----	1	SEAT AND TANK ASSEMBLY (See FUEL TANK)



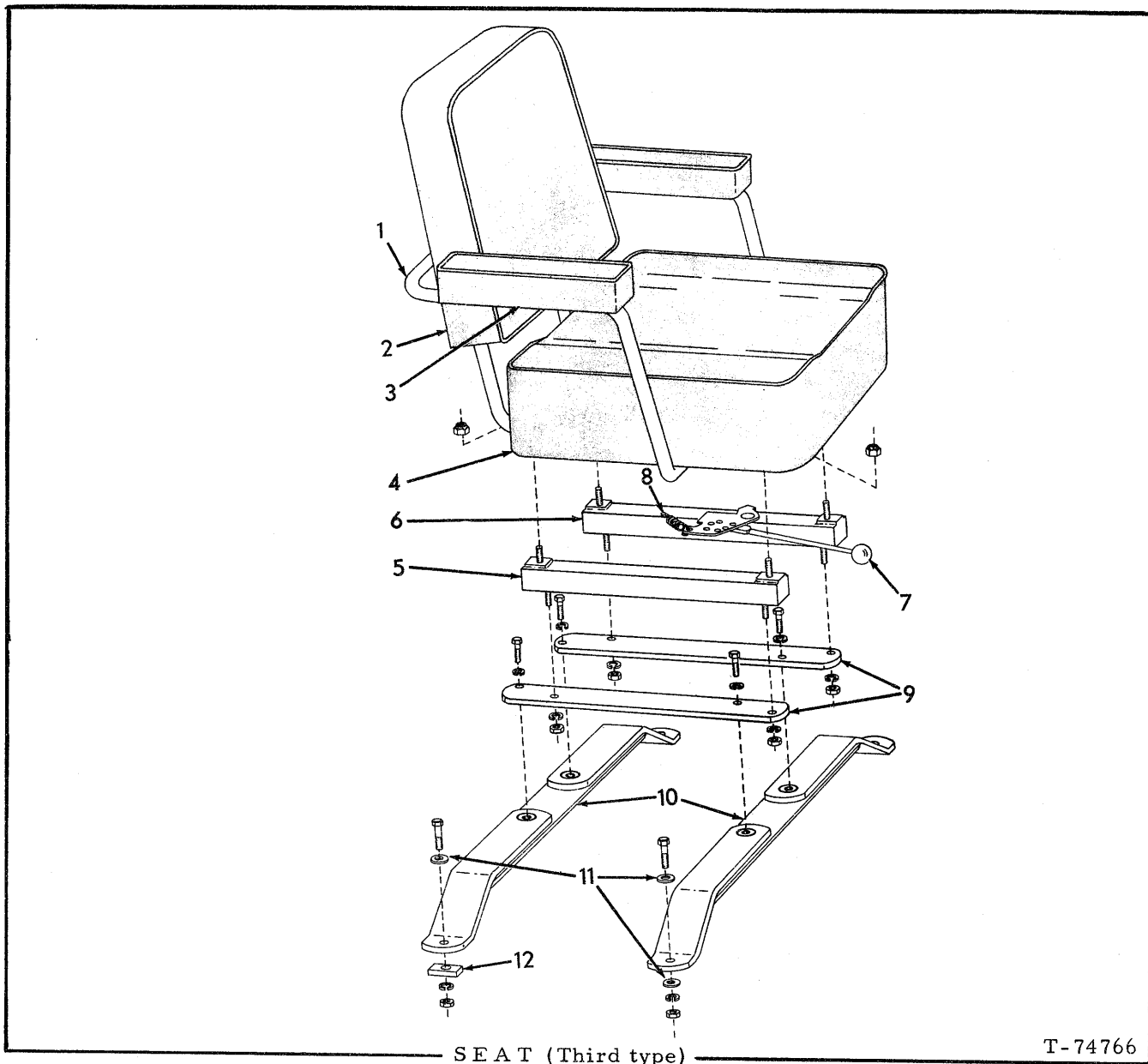
SEAT (Second type)

T-71995

S E A T

USAGE: Graders serial No. 1209 and up

ITEM	PART NO.	QTY.	DESCRIPTION
1	70659151	1	CUSHION, seat
2	70650073	2	CLIP, cushion retaining
	70914330	6	CAPSCREW, 1/4"NF x 5/8"
	70904204	6	LOCKWASHER, 1/4"
	70911040	2	NUT, 1/4"NF
3	70648879	1	PLATE, cushion lock
	70914330	2	CAPSCREW, 1/4"NF x 5/8"
	70911114	2	WASHER, plain, SAE std., 1/4"
3A	70650345	1	SHIM, cushion lock plate (Use as req'd)
4	70648881	1	ROD, cushion lock
	70916018	1	PIN, spring, 3/32" x 5/8"
5	70650365	1	CUSHION, back
6	70638432	3	BRACKET, pivot, back cushion
	70914330	3	CAPSCREW, 1/4"NF x 5/8"
	70904204	3	LOCKWASHER, 1/4"
7	70650364	1	ROD, back cushion adjustment
8	70051838	2	SPRING, back cushion adjustment
9	70058614	2	WASHER, adjustment spring
10	70094269	3	BRACKET, back cushion adjustment rod
	70914330	3	CAPSCREW, 1/4"NF x 5/8"
	70904204	3	LOCKWASHER, 1/4"
11	70660677	1	FRAME
	70924619	2	PLUG, button, 3/4" hole-diameter
	70913636	4	NUT, 5/16"NF
	70904205	4	LOCKWASHER, 5/16"
12	70648781	1	TRACK ASSEMBLY, seat adjustment, left (Includes nylon rollers, latch and latch spring)
	70913636	2	NUT, 5/16"NF
	70904205	2	LOCKWASHER, 5/16"
13	70648780	1	TRACK ASSEMBLY, seat adjustment, right (Includes nylon rollers, latch and latch spring)
	70913636	2	NUT, 5/16"NF
	70904205	2	LOCKWASHER, 5/16"
14	70092665	2	WASHER, spacing, adjustment tracks
15	70650243	1	WIRE, connecting, seat adjustment latch
16	70648764	1	ANGLE, supporting, battery compartment covers(Graders pr. to #1702)
	70657254	1	ANGLE, supporting, battery compartment covers(Graders #1702 and up)
17	70648769	1	BAR, supporting, battery compartment covers
	70903629	2	CAPSCREW, 3/8"NC x 3/4"
	70904206	2	LOCKWASHER, 3/8"
	70911026	2	NUT, 3/8"NC
18	70648775	2	PLATE, cover, battery compartments
	70915015	3	NUT, wing, 1/4"NC
	70911986	3	WASHER, plain



SEAT (Third type)

T-74766

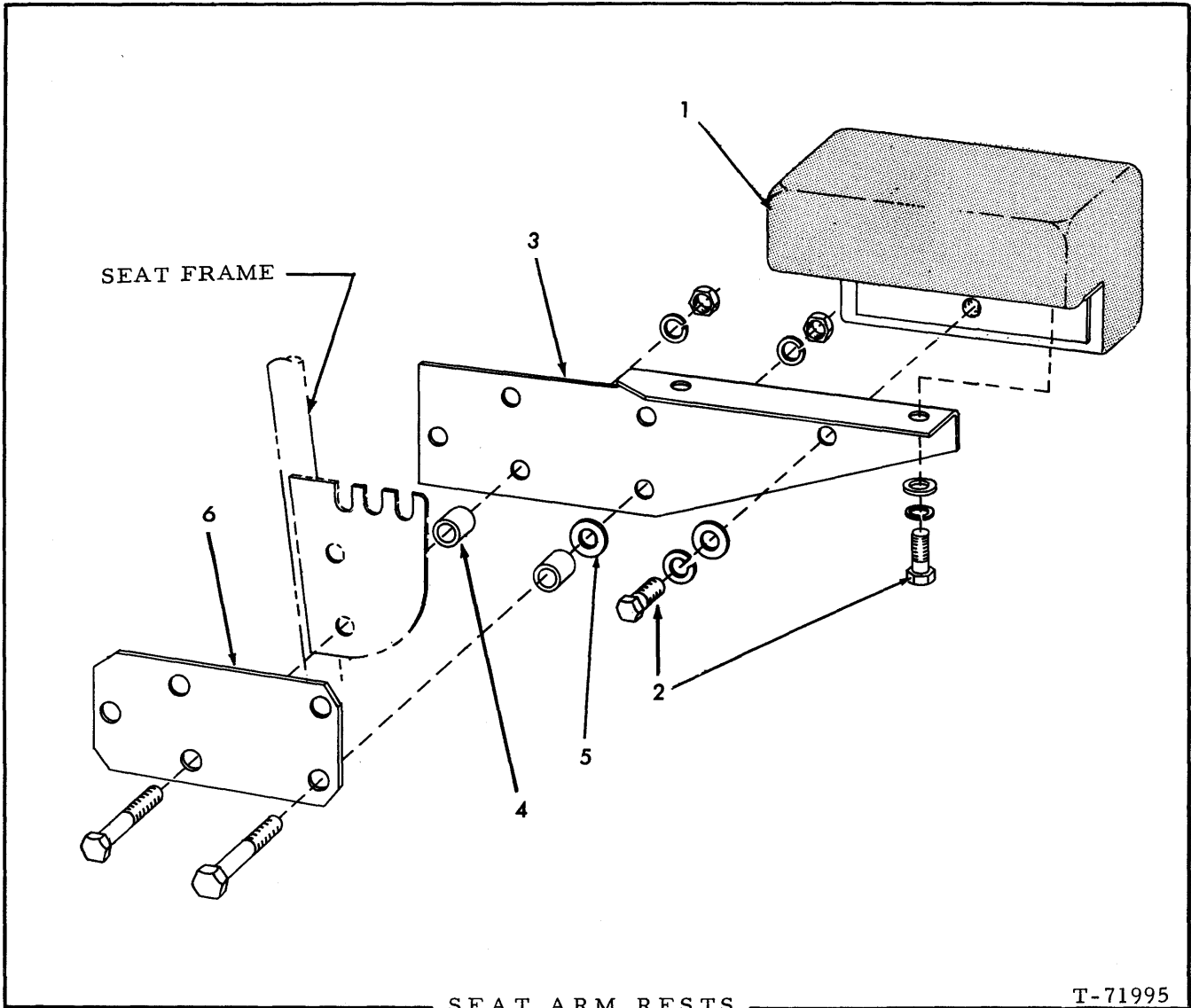
USAGE: Special equipment. One-man type.

ITEM	PART NO.	QTY.	DESCRIPTION
1	70661946	1	SEAT ASSEMBLY (Includes items 2 thru 8)
	70913636	4	NUT, 5/16"NF
	70904205	4	LOCKWASHER, 5/16"
2	70663395	1	CUSHION, back
	70900578	4	SCREW, machine, 1/4"NC x 1-1/4"
3	70663399	2	CUSHION, arm rest
	70900578	4	SCREW, machine, 1/4"NC x 1-1/4"
4	70663396	1	CUSHION, seat
5	70663398	1	SLIDE, right side
	70915262	2	NUT, elastic stop, 5/16"NF
6	70663397	1	SLIDE ASSEMBLY, left side (Includes item 7 and 8)
	70915262	2	NUT, elastic stop, 5/16"NF
7	70663701	1	KNOB, adjustment lever

(Continued)

SEAT (Third type)(Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
8	70051838	1	SPRING, adjustment lever
9	70661097	2	BAR, mounting
	70920622	4	CAPSCREW, 5/16"NF x 1"
	70904205	4	LOCKWASHER, 5/16"
10	70661100	2	SUPPORT
	70915807	4	CAPSCREW, 5/16"NC x 1-1/4"
	70904205	4	LOCKWASHER, 5/16"
	70911025	4	NUT, 5/16"NC
11	70092665	6	WASHER, spacing
12	70055833	2	BLOCK, spacing



SEAT ARM RESTS

T-71995

USAGE: Special equipment for graders serial No. 1209 and up

ITEM	PART NO.	QTY.	DESCRIPTION
1	70651114	2	CUSHION, arm rest
2	70036032	6	CAPSCREW, 3/8"NF x 3/4"
	70904206	6	LOCKWASHER, 3/8"
	70620544	6	WASHER, plain
3	70660609	1	BRACKET, arm cushion, left side
	70660610	1	BRACKET, arm cushion, right side
	70903634	10	CAPSCREW, 3/8"NC x 2"
	70904206	10	LOCKWASHER, 3/8"
	70911026	10	NUT, 3/8"NC
4	70043024	10	BLOCK, spacing
5	70620544	6	WASHER, spacing
6	70660614	2	PLATE, mounting

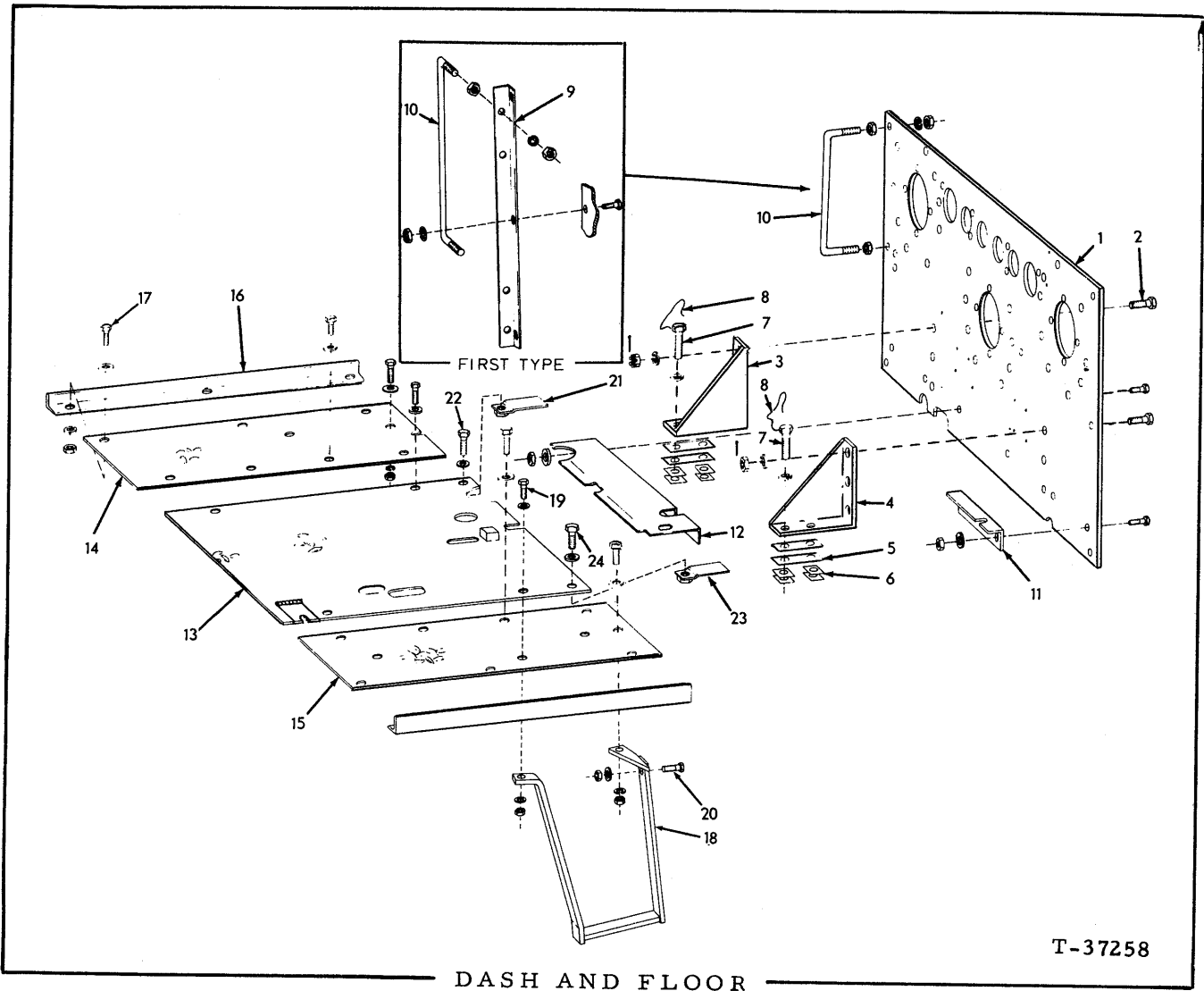
DASH AND FLOOR

* Graders prior to serial No. 1314
 ** Graders serial No. 1314 and up

ITEM	PART NO.	QTY.		DESCRIPTION
		*	**	
1	70639704	1	1	PLATE, dash
2	70089129	6	6	CAPSCREW, drilled-end, 5/8"NF x 2"
	70904209	6	6	LOCKWASHER, 5/8"
	70912840	6	6	NUT, slotted, 5/8"NF
	70900807	6	6	PIN, cotter, 1/8" x 1-1/4"
3	70622843	1	1	BRACKET, dash supporting, left
4	70622844	1	1	BRACKET, dash supporting, right
5	70622839	8	8	SHIM, dash supporting bracket (1/16")
6	70643643	4	4	SHIM, dash supporting bracket (.010")
} Use as req'd.				
7	70621598	4	4	CAPSCREW, dash supporting bracket
	70905347	4	4	LOCKWASHER, 7/8"
8	70023633	2	2	WIRE, locking, 1/16" x 12"
9	70621117	2	-	*ANGLE, grab handle (Graders prior to #1180)
	70903639	6	-	CAPSCREW, 1/2"NC x 1-1/2" (2 less used when special lights installed)
	70904208	6	-	LOCKWASHER, 1/2"
	70911028	6	-	NUT, 1/2"NC
10	70075191	2	-	*HANDLE, grab (Graders prior to #1180)
	70648921	2	2	*HANDLE, grab (Graders #1180 and up)
	70904208	4	4	LOCKWASHER, 1/2"
	70911028	8	8	NUT, 1/2"NC
11	70624310	2	2	ANGLE, floor plate supporting (Graders prior to #1766)
	70903639	4	4	CAPSCREW, 1/2"NC x 1-1/2"
	70900818	4	4	WASHER, plain, U. S. std., 1/2"
	70911028	4	4	NUT, 1/2"NC
12	70644087	1	1	PLATE, floor, front center
	70915987	2	2	CAPSCREW, 1/2"NC x 1-1/2"
	70900818	2	2	WASHER, plain, U. S. std., 1/2"
	70911028	2	2	NUT, 1/2"NC
13	70630168	1	-	PLATE, floor, rear center (Graders prior to #1209)
	70650512	1	-	PLATE, floor, rear center (Graders #1209 and up)
	70903637	4	-	CAPSCREW, 1/2"NC x 1"
	70900818	4	-	WASHER, plain, U. S. std., 1/2"
	70659751	-	1	PLATE, floor, rear center (Graders prior to #2190)
	70661824	-	1	PLATE, floor, rear center (Graders #2190 thru unit #05222)
	70669607	-	1	PLATE, floor, rear center (Graders unit #05222 and up)
	70915987	-	4	CAPSCREW, 1/2"NC x 1-1/2"
70900818	-	4	WASHER, plain, U. S. std., 1/2"	

*Not used when cab is installed

(Continued)



DASH AND FLOOR

DASH AND FLOOR (Continued)

ITEM	PART NO.	QTY.		DESCRIPTION
		*	**	
14	70623085	1	-	PLATE, floor, left
	70903638	4	-	CAPSCREW, 1/2"NC x 1-1/4"
	70900818	4	-	WASHER, plain, U. S. std., 1/2"
	70650856	-	1	PLATE, floor, left (Graders prior to #1702)
	70656248	-	1	PLATE, floor, left (Graders #1702 and up)
	70915987	-	4	CAPSCREW, 1/2"NC x 1-1/2"
	70916313	-	1	CAPSCREW, 1/2"NC x 1-3/4"
	70900818	-	5	WASHER, plain, U. S. std., 1/2"
	70904208	-	1	LOCKWASHER, 1/2"
	70911028	-	1	NUT, 1/2"NC
15	70621580	1	-	PLATE, floor, right
	70903638	4	-	CAPSCREW, 1/2"NC x 1-1/4"
	70900818	4	-	WASHER, plain, U. S. std., 1/2"
	70650857	-	1	PLATE, floor, right(Graders prior to #1702)
	70655966	-	1	PLATE, floor, right(Graders #1702 and up)
	70915987	-	4	CAPSCREW, 1/2"NC x 1-1/2"
	70916313	-	1	CAPSCREW, 1/2"NC x 1-3/4"
	70900818	-	5	WASHER, plain, U. S. std., 1/2"
	70904208	-	1	LOCKWASHER, 1/2"
	70911028	-	1	NUT, 1/2"NC
16	70622527	2	2	*ANGLE, floor plate
17	70916311	6	6	CAPSCREW, 1/2"NC x 1-1/4"
	70900818	6	6	WASHER, plain, U. S. std., 1/2"
	70904208	6	6	LOCKWASHER, 1/2"
	70911028	6	6	NUT, 1/2"NC
18	70659835	1	1	STEP, mounting, left side
	70659836	1	1	STEP, mounting, right side
19	70916313	2	2	CAPSCREW, 1/2"NC x 1-3/4"
20	70916314	2	2	CAPSCREW, 1/2"NC x 2"
	70900818	4	4	WASHER, plain, U. S., std., 1/2"
	70904208	4	4	LOCKWASHER, 1/2"
	70911028	4	4	NUT, 1/2"NC
21	70650877	-	1	PLATE, floor closure, left
22	70915987	-	1	CAPSCREW, 1/2"NC x 1-1/2"
	70900818	-	1	WASHER, plain, U. S. std., 1/2"
23	70650878	-	1	PLATE, floor closure, right
24	70915987	-	1	CAPSCREW, 1/2"NC x 1-1/2"
	70900818	-	1	WASHER, plain, U. S. std., 1/2"

*Not used when cab is installed

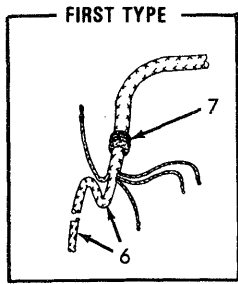
PAINTING AND MARKING
(Not Illustrated)

ITEM	PART NO.	QTY.	DESCRIPTION	
			<u>NOTE:</u> Approximately 4-1/2 gallons required for spraying one coat	
1	70925109	-	ENAMEL, A-C yellow, quart can	
2	70925110	-	ENAMEL, A-C yellow, gallon can	
4	70925108	-	ENAMEL, A-C yellow, 12 oz. pressurized spray-type can	
			<u>NOTE:</u> All plates and transfers listed below are English language printings unless otherwise indicated	
5	70622794	1	PLATE, instruction, service and lubrication (7-1/2" x 14")(Graders prior to #1209)	Attached to seat front plate
	70651433	1		
	70918370	6	RIVET, drive, 3/16" x 9/32"	
6	70666497	1	TRANSFER, instruction, engine operation(2-1/4" x 4-1/2") (Applied to right side of operators compartment on units with turbocharger)	
7	70629215	1	TRANSFER, shifter positions (3" x 4")(Applied to seat)	
8	70623490	2	TRANSFER, "ROLL-AWAY MOLDBOARD"(5-1/2" diam.) (Applied to moldboard)	
9	70621393	1	TRANSFER, identification, circle turn operating lever (1-1/8" x 1-3/4")(Applied to shifter housing)	
10	70621395	2	TRANSFER, identification, circle lift operating lever(1-1/8" x 1-3/4")(Applied to shifter housing)	
11	70621396	1	TRANSFER, identification, side shift operating lever(1-1/8" x 1-3/4")(Applied to shifter housing)	
12	70621394	1	TRANSFER, identification, wheel lean operating lever(1-1/8" x 1-3/4")(Applied to shifter housing)	
13	70621397	1	TRANSFER, identification, scarifier operating lever(1-1/8" x 1-3/4")(Applied to shifter housing)	
14	70621484	1	TRANSFER, scarifier check and lubrication guide (3" x 6-1/2") (Applied to right side of grader frame)	
15	70621343	2	TRANSFER, instruction, oil filter(2-5/16" x 3-1/4")(Applied to engine filter)	
16	70650587	1	TRANSFER, altitude warning(1-3/4" x 3-1/2")(Applied to right side of operators compartment on units with turbocharger)	

(Continued)

PAINTING AND MARKING (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
17	70621399	1	TRANSFER, warning, special severe-service oil filter (Includes Portuguese translation, 2" x 10")(Applied to filter)
	70621400	1	TRANSFER, warning, special severe-service oil filter (French and Spanish translations, 2" x 10")(Applied to filter)
18	70644625	1	TRANSFER, instruction, 1st stage fuel filter(1-3/4" x 2-1/4") (Applied to fuel filter)(Graders prior to #1209)
19	70644593	1	TRANSFER, instruction, 2nd stage fuel filter(1-3/4" x 2-1/4") (Applied to fuel filter)(Graders prior to #1209)
20	70661606	2	TRANSFER, "M100" (elliptical)(Applied to sides of seat)
21	70661609	2	TRANSFER, "SERIES B"(Applied to sides of seat on graders #1001 and up)
22	70924305	2	TRANSFER, trademark(5-5/8", black and orange)(Applied to radiator grill and to frame)
23	70924548	2	TRANSFER, "ALLIS-CHALMERS"(1-1/4" x 20")(Applied to sides of seat on early units)
24	70924552	2	TRANSFER, "ALLIS-CHALMERS"(2-3/8" x 39")(Applied to sides of frame)
25	70924550	3	TRANSFER, "ALLIS-CHALMERS"(1-7/8" x 30")(Applied to rear of frame and sides of hood)
26	70638419	1	TRANSFER, instruction, dry-type air cleaner (1-3/4" x 3") (Applied to air cleaner 70638274)
	70648092	1	TRANSFER, instruction, dry-type air cleaner (" x ") (Applied to air cleaner 70644498)
	70657738	1	TRANSFER, instruction, dry-type air cleaner (2-1/2" x 5") (Applied to air cleaner 70659388)
	70659430	1	TRANSFER, instruction, dry-type air cleaner (2-1/2" x 5") (Applied to air cleaner 73053290)
27	70656642	1	TRANSFER, instruction, oil-bath air cleaner (1-1/2" x 3-3/4") (Applied to oil-bath air cleaner)
28	70633384	1	TRANSFER, instruction, air heater (2" x 6")(Applied to left inside of seat back)
28A	70651894	1	TRANSFER, instruction, air cleaner cartridge replacement (1-5/16" x 2-7/16")(Applied to air restriction INDICATOR 70631564)
29	70621342	1	TRANSFER, instruction, engine primer (1-3/4" x 6")(Applied to left inside of seat back)
30	70643675	1	TRANSFER SET (Consists of 1 each TRANSFERS 70621342, 70621393, 70621394, 70621396, 70621397, 70629215, 70638419; 2 each TRANSFERS 70924305, 70621343, 70621395, 70623490, 70661606, 70924552; 3 TRANSFERS 70924550)

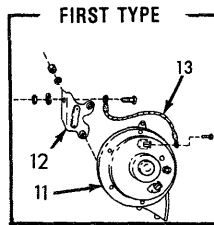
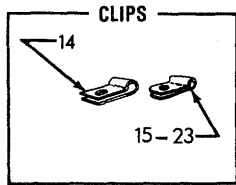
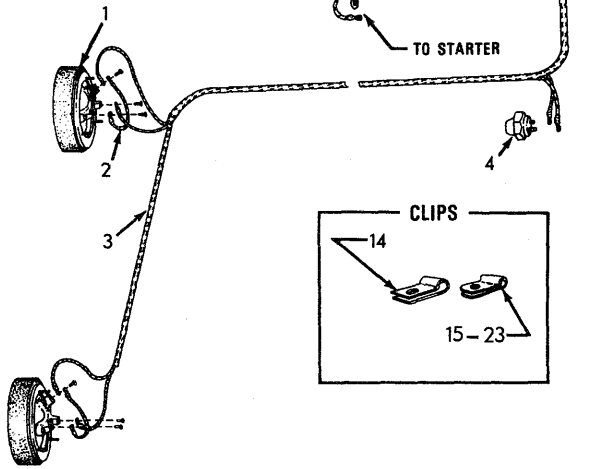


TO ALTERNATOR
ACCESSORY JUMPER
TO INSTRUMENT PANEL

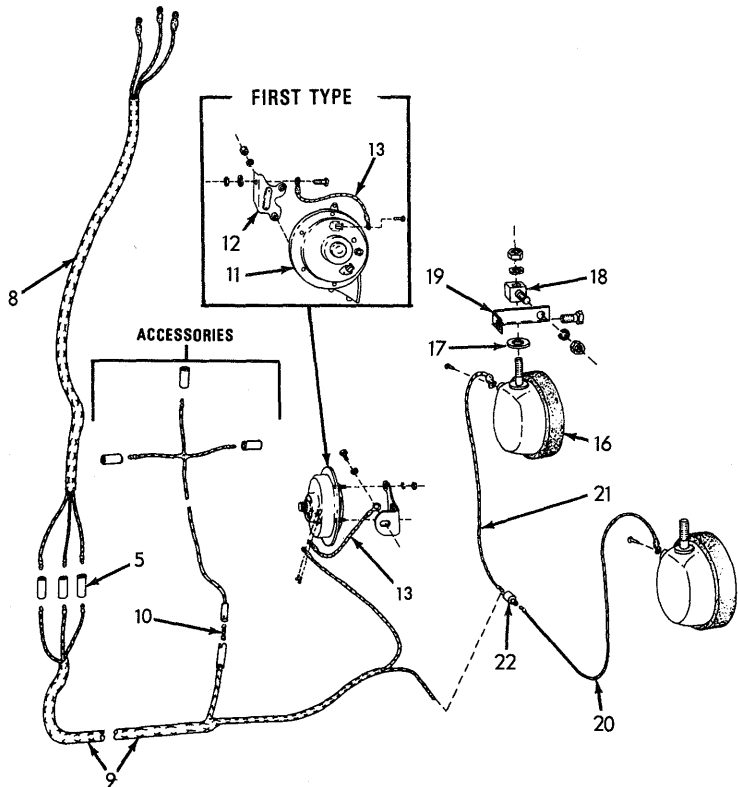
TO ALTERNATOR HARNESS

TO INSTRUMENT PANEL

TO STARTER



ACCESSORIES



T-37260

LIGHTS, HORN AND WIRING

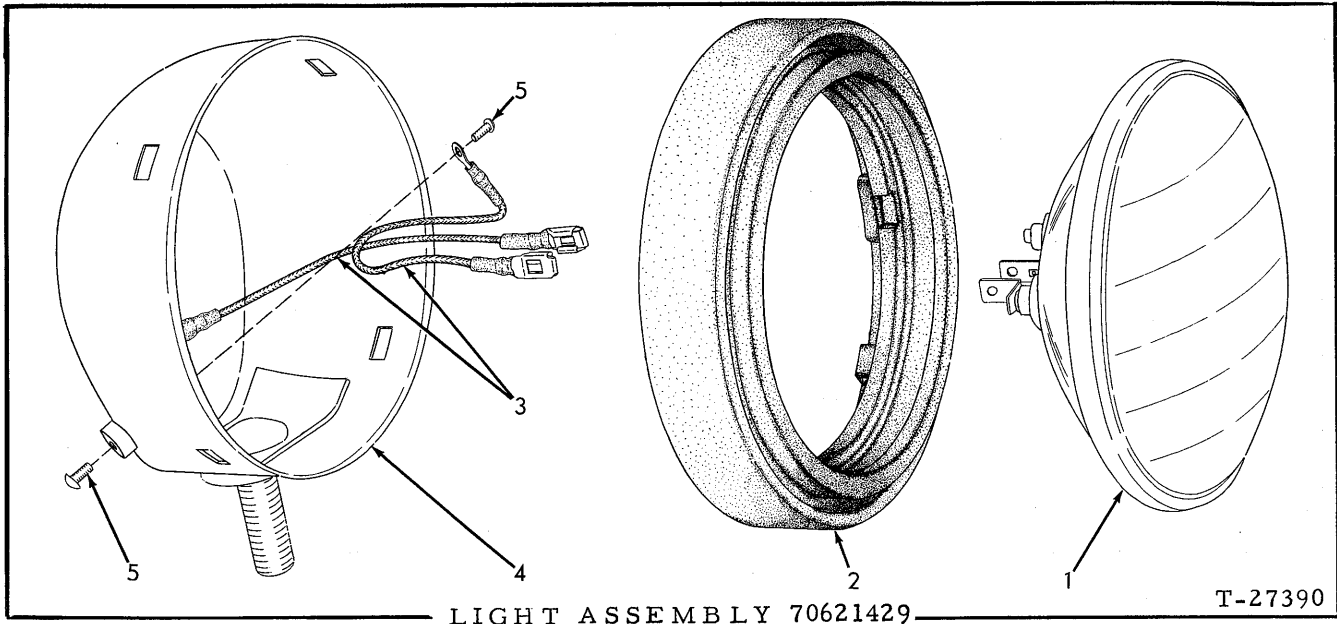
* Units with single tail light (Standard)
 ** Units with dual tail lights (Optional)

ITEM	PART NO.	QTY.		DESCRIPTION
		*	**	
1	70621818	1	2	LIGHT ASSEMBLY, combination tail and stop (See page 249 for parts)
	70901310	3	6	NUT, #10-24NC
	70904203	3	6	LOCKWASHER, #10
2	70624477	1	2	CABLE, tail light ground
3	70638097	1	-	CABLE, main harness to stop light switch
	70638096	1	-	CABLE, stop light switch to tail light
	70621482	-	1	HARNESS, wiring, tail light
4	70094334	1	1	SWITCH, pressure, stop light operating
5	70048142	7	8	CONNECTOR, harness
6	70621499	1	1	HARNESS, main wiring (Graders prior to #1968)
	70654399	1	1	HARNESS, main wiring (Graders #1968 and up)
7	70055418	1	1	GROMMET, main wiring harness
8	70621513	1	1	HARNESS, wiring, instrument panel to accessory harness
9	70621514	1	1	HARNESS, wiring, horn and accessories
10	70208960	1	1	FUSE, 20 ampere, 1/4" x 1-1/4"
11	-----	1	1	HORN, warning (Delco-Remy #9000503. Order parts from local United Motors Service agency)(Used prior to October 15, 1963. Order HORN 70642336, BRACKET 70642337, 2 SCREWS 70034076 and 2 LOCKWASHERS 70912739)
	70906958	2	2	LOCKWASHER, 1/4"
	70910267	2	2	NUT, jam, 1/4"NF
	70642336	1	1	HORN, warning (Serviced only as a unit)(Effective October 15, 1963)
	70034076	2	2	SCREW, terminal
	70912739	2	2	LOCKWASHER, int-tooth, #8
	70081173	1	1	BRACKET, horn mounting (Used prior to October 15, 1963)
12	70903631	1	1	CAPSCREW, 3/8"NC x 1-1/4"
	70904206	1	1	LOCKWASHER, 3/8"
	70911026	1	1	NUT, 3/8"NC
	70642337	1	1	BRACKET, horn mounting (For HORN 70642336 only)
	70911115	1	1	WASHER, plain, SAE std., 3/8"
13	70094190	1	1	CABLE, horn ground

(Continued)

LIGHTS, HORN AND WIRING (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
		* **	
14	70034632	- 6	CLIP, rear wiring harness (5/16" diam., 13/32" bolt-hole)
	70903627	- 6	CAPSCREW, 3/8"NC x 1/2"
	70911115	- 6	WASHER, plain, SAE std., 3/8"
	70040796	7 7	CLIP, wiring harness (3/8" diam., 13/32" bolt-hole)
	70903630	1 1	CAPSCREW, 3/8"NC x 1"
	70903627	1 1	CAPSCREW, 3/8"NC x 1/2"
	70903628	3 3	CAPSCREW, 3/8"NC x 5/8"
	70911115	5 5	WASHER, plain, SAE std., 3/8"
	70911026	1 1	NUT, 3/8"NC
	70091046	3 3	CLIP, wiring harness (1/2" diam., 7/16" bolt-hole)
	70903627	1 1	CAPSCREW, 3/8"NC x 1/2"
	70903628	1 1	CAPSCREW, 3/8"NC x 5/8"
	70911115	2 2	WASHER, plain, SAE std., 3/8"
	70223502	1 1	CLIP, wiring harness (3/16" diam., 17/32" bolt-hole)
15	70200479	6 1	CLIP, wiring harness (1/8" diam., 13/32" bolt-hole)
	70903627	5 -	CAPSCREW, 3/8"NC x 1/2"
	70911115	5 -	WASHER, plain, SAE std., 3/8"
	70044044	1 1	CLIP, wiring harness (1/4" diam., 17/32" bolt-hole)
<u>NOTE:</u> The following parts are Special equipment			
16	70621429	2 2	LIGHT ASSY., head (See page 249)
17	70064531	2 2	WASHER, plain
	70904208	2 2	LOCKWASHER, 1/2"
	70911043	2 2	NUT, 1/2"NF
	70628061	2 2	EYEBOLT, head light
18	70911115	2 2	WASHER, plain, SAE std., 3/8"
	70677006	2 2	WASHER, plain
	70904206	2 2	LOCKWASHER, 3/8"
	70911026	2 2	NUT, 3/8"NC
	70628418	2 2	BRACKET, swivel mounting
19	70904541	2 2	CAPSCREW, 1/2"NC x 1-3/4" (Used prior to grader #1180)
	70098303	1 1	CABLE, right head light
20	70056694	1 1	CABLE, left head light
21	70048137	1 1	CONNECTOR, cable (3-line)
22	70223502	6 6	CLIP, head light cable (3/16" diam., 17/32" bolt-hole)
23			

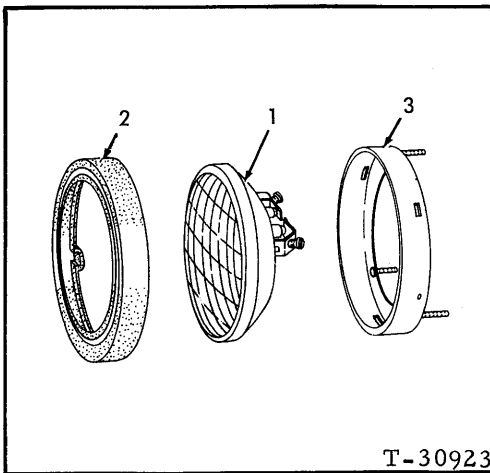


USAGE: See pages 247 and 263

ITEM PART NO. QTY. DESCRIPTION

NOTE: Quantities indicated are for one (1) light only

1	70182763	1	SEALED BEAM (24 volt)
2	70621428	1	RETAINER (rubber)
3	70621724	2	CABLE, sealed beam (Includes terminals)
4	-----	1	BODY ASSEMBLY (Not serviced separately)
5	70912731	2	SCREW, terminal (#8 - 32NC x 5/16")



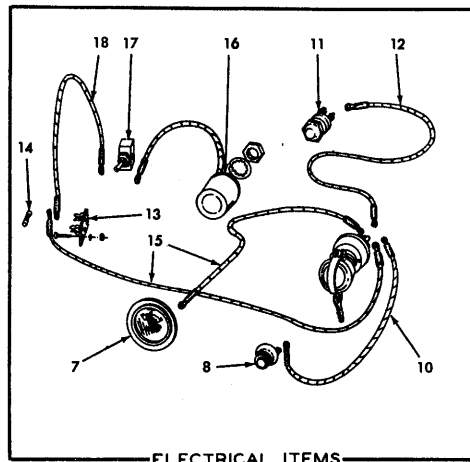
LIGHT ASSEMBLY 70621818

USAGE: See page 247

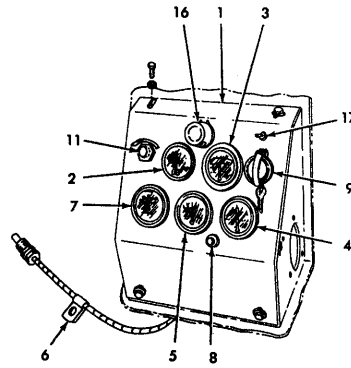
ITEM PART NO. QTY. DESCRIPTION

NOTE: Quantities indicated are for one (1) light only

1	70644109	1	LAMP, sealed beam (Red, dual filament, 24 volt)
2	70621821	1	RETAINER, lamp
3	70621819	1	FRAME



ELECTRICAL ITEMS



INSTRUMENTS

T-73595

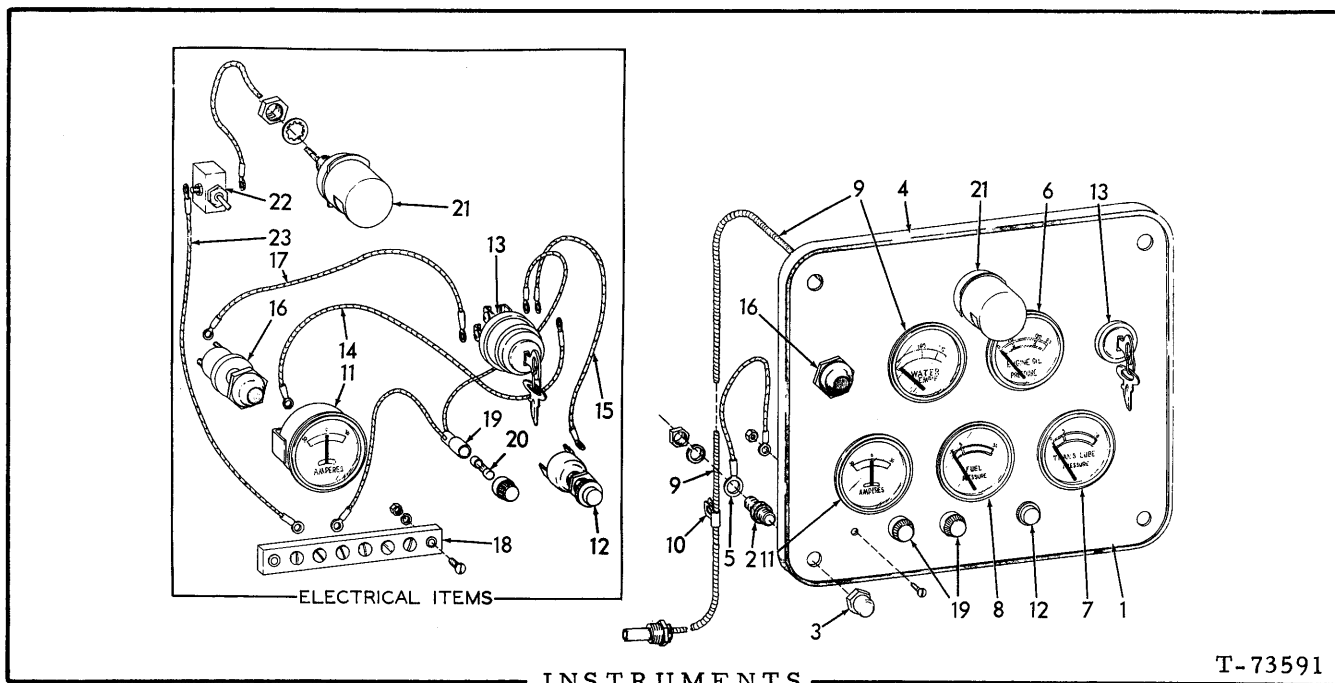
USAGE: Graders prior to serial No. 1600

ITEM PART NO. QTY. DESCRIPTION

1	70641619	1	PANEL, instrument mounting
	70921191	1	PLUG, button (Not used when dash light is installed)
	70903628	4	CAPSCREW, 3/8"NC x 5/8"
	70900817	4	WASHER, plain, U. S. std., 3/8"
2	-----	1	GAUGE, fuel pressure (See page 253)
3	-----	1	GAUGE, engine oil pressure (See page 252)
4	-----	1	GAUGE, transmission oil pressure (See page 254)
5	70658368	1	GAUGE, engine temperature (Includes mounting clamp)
6	70200479	4	CLIP, engine temperature gauge tube
7	70658348	1	AMMETER (Includes mounting clamp)
8	70031337	1	SWITCH, push-button, horn
9	70649031	1	SWITCH, master
10	70095860	1	CABLE, master switch to horn button (8-3/4" long)
11	70240962	1	SWITCH ASSEMBLY, starter (Includes mounting nut)(Graders #313 and up)
12	70074887	1	CABLE, master switch to starter switch (14" long)(Graders #313 and up)
13	70605842	1	BLOCK, fuse mounting
	70900555	2	SCREW, machine, #8NC x 3/4"
	70906964	2	LOCKWASHER, #8
	70907154	2	NUT, #8NC
14	70208960	1	FUSE, 20 ampere (1/4" x 1-1/4")
15	70074887	2	CABLE, master switch to ammeter and fuse block (14" long)

NOTE: The following parts are Special equipment

16	70659003	1	LIGHT ASSEMBLY, instrument panel (See page 255 for parts)
	70910334	1	LOCKWASHER, ext-tooth, 5/8"
	70911049	1	NUT, jam, 5/8"NF
17	70639726	1	SWITCH, lights (Includes mounting nuts)
18	{70068337	1	CABLE, toggle switch to fuse block (11" long)(Graders prior to #386)
	{70083097	1	CABLE, toggle switch to fuse block (19" long)(Graders #386 and up)



INSTRUMENTS

T-73591

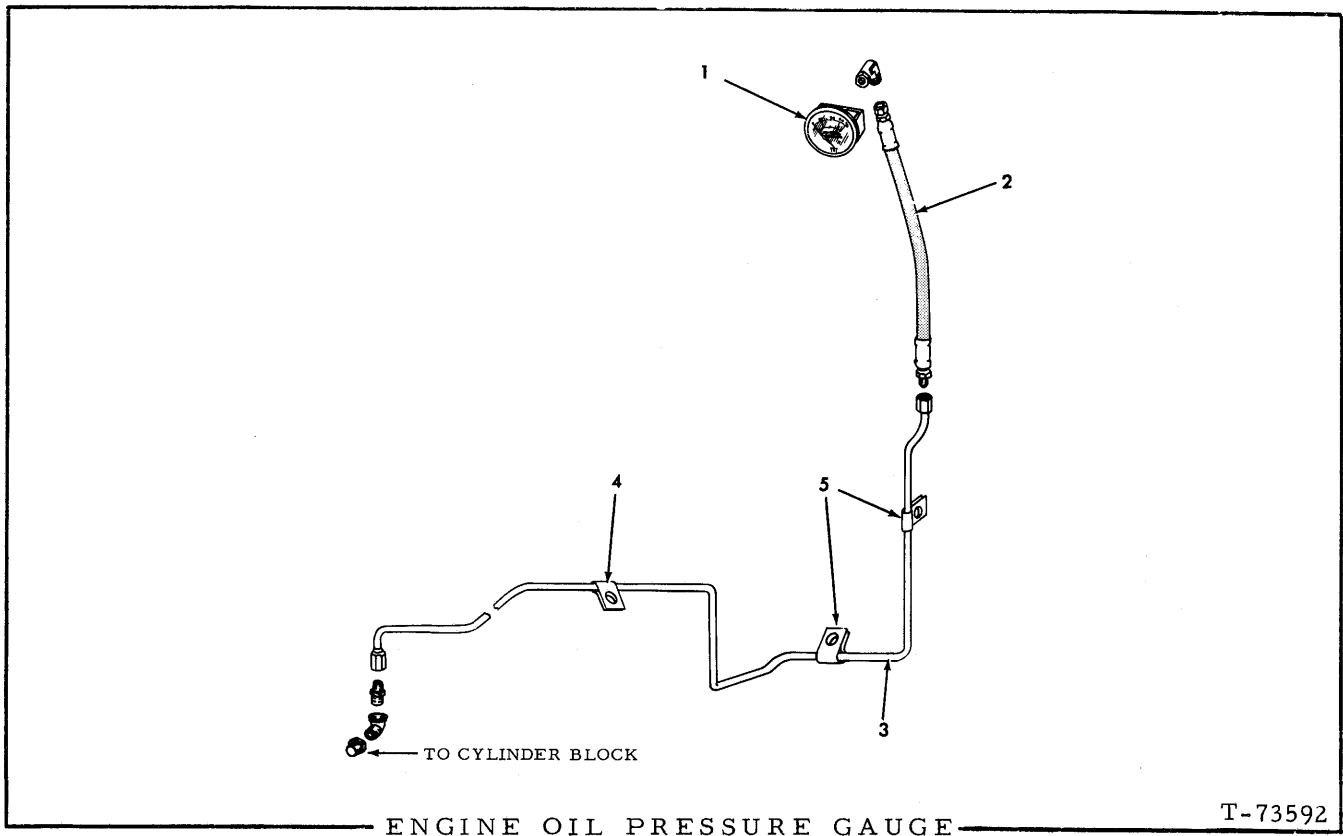
USAGE: Graders serial No. 1600 and up

ITEM	PART NO.	QTY.	DESCRIPTION
1	70658667	1	PANEL, instrument mounting
	70921191	1	PLUG, button (Not used when dash light is installed)
2	70642746	4	CUSHION, panel mounting
	70904206	4	LOCKWASHER, 3/8"
	70911041	4	NUT, 3/8"NF
3	70924950	4	NUT, cap, cd-pltd., 3/8"NF
4	70658666	1	SEAL, instrument panel
5	70094190	1	CABLE, panel grounding (7" long)
	70925001	1	SCREW, machine #8-32NC x 1/2"
	70907154	1	NUT, #8-32NC
6	-----	1	GAUGE, engine oil pressure (See page 252)
7	-----	1	GAUGE, transmission oil pressure (See page 254)
8	-----	1	GAUGE, fuel pressure (See page 253)
9	70658368	1	GAUGE, engine temperature (Includes mounting clamp)
10	70200479	4	CLIP, engine temperature gauge tube
11	70658348	1	AMMETER (30 amp. Includes mounting clamp)(Graders prior to #1968 when equipped with generator only)
	70658534	1	AMMETER (80 amp. Includes mounting clamp)(For all graders equipped with alternator)
12	70031337	1	SWITCH, push-button, horn
13	70649031	1	SWITCH, master
14	70074887	1	CABLE, master switch to ammeter (14" long)
15	70095860	1	CABLE, master switch to horn button (8-3/4" long)
16	70240962	1	SWITCH ASSEMBLY, starter (Includes mounting nut)
17	70074887	1	CABLE, master switch to starter switch (14" long)
18	70659390	1	BLOCK, terminal
	70925002	2	SCREW, machine, cd-pltd., #8-32NC x 3/4"
	70906964	2	LOCKWASHER, #8
	70907154	2	NUT, #8-32NC
19	70658679	2	HOLDER, fuse (Includes item 20)

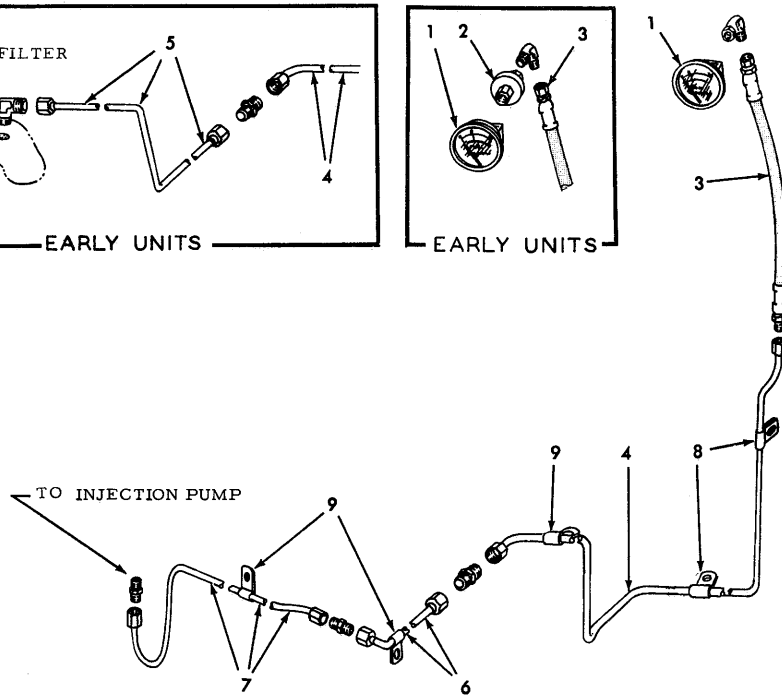
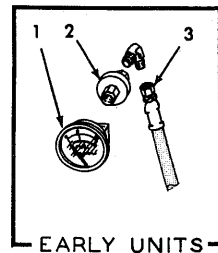
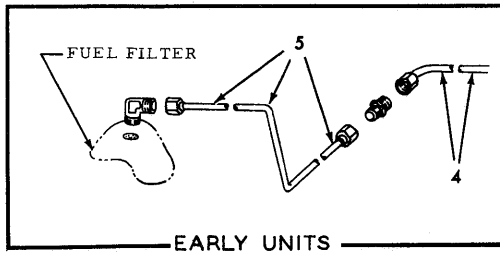
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INSTRUMENTS (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
20	70208960	2	FUSE, 20 ampere (1/4" x 1-1/4")
<u>NOTE:</u> The following parts are special equipment			
21	70659003	1	LIGHT ASSEMBLY, instrument panel (See page 255 for parts)
	70910334	1	LOCKWASHER, ext-tooth, 5/8"
	70911049	1	NUT, jam, 5/8"NF
22	70639726	1	SWITCH, lights (Includes mounting nuts)
23	70078694	1	CABLE, toggle switch to terminal block (13" long)



ITEM	PART NO.	QTY.	DESCRIPTION
1	70658293	1	GAUGE (Includes mounting clamp)
2	70645420	1	HOSE (See HOSE PARTS)
	70919249	1	ELBOW, flare type, 90°, 1/4" tube, 1/8"NPT female
3	70634383	1	TUBE ASSEMBLY (Includes nuts)
	70919140	1	CONNECTOR, flare type, 1/4" tube, 1/4"NPT male
	70901722	1	ELBOW, street, 90°, 1/4"NPT
	70901839	1	BUSHING, pipe reducing, 1/2"NPT to 1/4"NPT
4	70235794	1	CLIP, tube supporting (1/4" diam., 13/32" bolt-hole)
	70903628	1	CAPSCREW, 3/8"NC x 5/8"
	70911115	1	WASHER, plain, SAE std., 3/8"
5	70077341	2	CLIP, tube supporting (1/4" diam., 13/32" bolt-hole)



FUEL PRESSURE GAUGE

T-73593

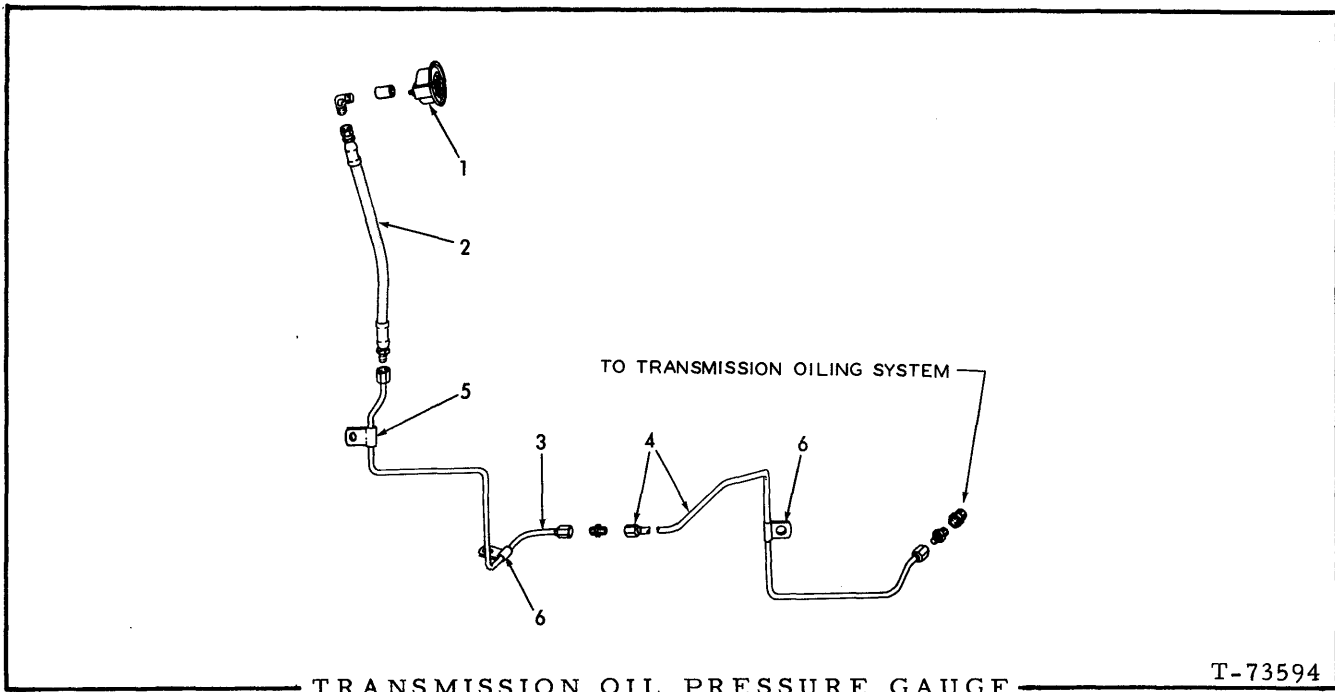
USAGE: Graders prior to Serial No. 67S06589

* Graders prior to serial No. 1600

** Graders serial No. 1600 thru No. 5000; also graders serial No. 67S05001 and up

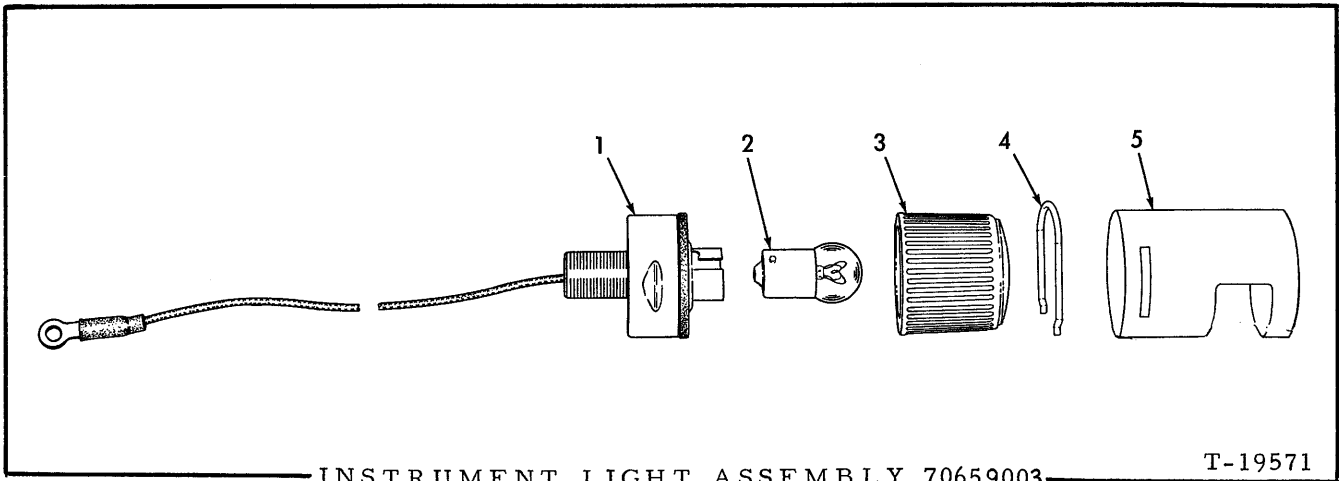
ITEM	PART NO.	QTY.	DESCRIPTION
		* **	
1	70658349	1 -	GAUGE (30 lb. Includes mounting clamp)(Graders prior to #1209)
	70658356	1 1	GAUGE (135 lb. Includes mounting clamp)(Graders #1209 and up)
2	70069674	1 -	RESTRICTOR (Used prior to grader #1438)
3	70645420	1 1	HOSE (See HOSE PARTS)
	70919546	1 -	ELBOW, flare type, 90°, 1/4" tube, 1/4" NPT male (Graders prior to #1438)
	70919249	1 1	ELBOW, flare type, 90°, 1/4" tube, 1/4" NPT female (Graders #1438 and up)
4	70634375	1 1	TUBE ASSY., front section (Includes nuts)
	70919214	1 1	UNION, flare type, 1/4" tube
5	70634384	1 -	TUBE ASSY., rear section (Includes nuts)(Graders prior to #1209)
	70919173	1 -	ELBOW, flare type, 90°, 1/4" tube, 1/8" NPT male
6	70650484	1 1	TUBE ASSY., intermediate section (Includes nuts)(Graders #1209 and up)
	70919214	1 1	UNION, flare type, 1/4" tube
7	70650495	1 1	TUBE ASSY., rear section (Includes nuts)(Graders #1209 and up)
	70919171	1 1	CONNECTOR, flare type, 1/4" tube, 1/8" NPT male
8	70235794	2 2	CLIP, tube supporting (short)
9	70077341	4 4	CLIP, tube supporting (long)

(Revised February 1975)



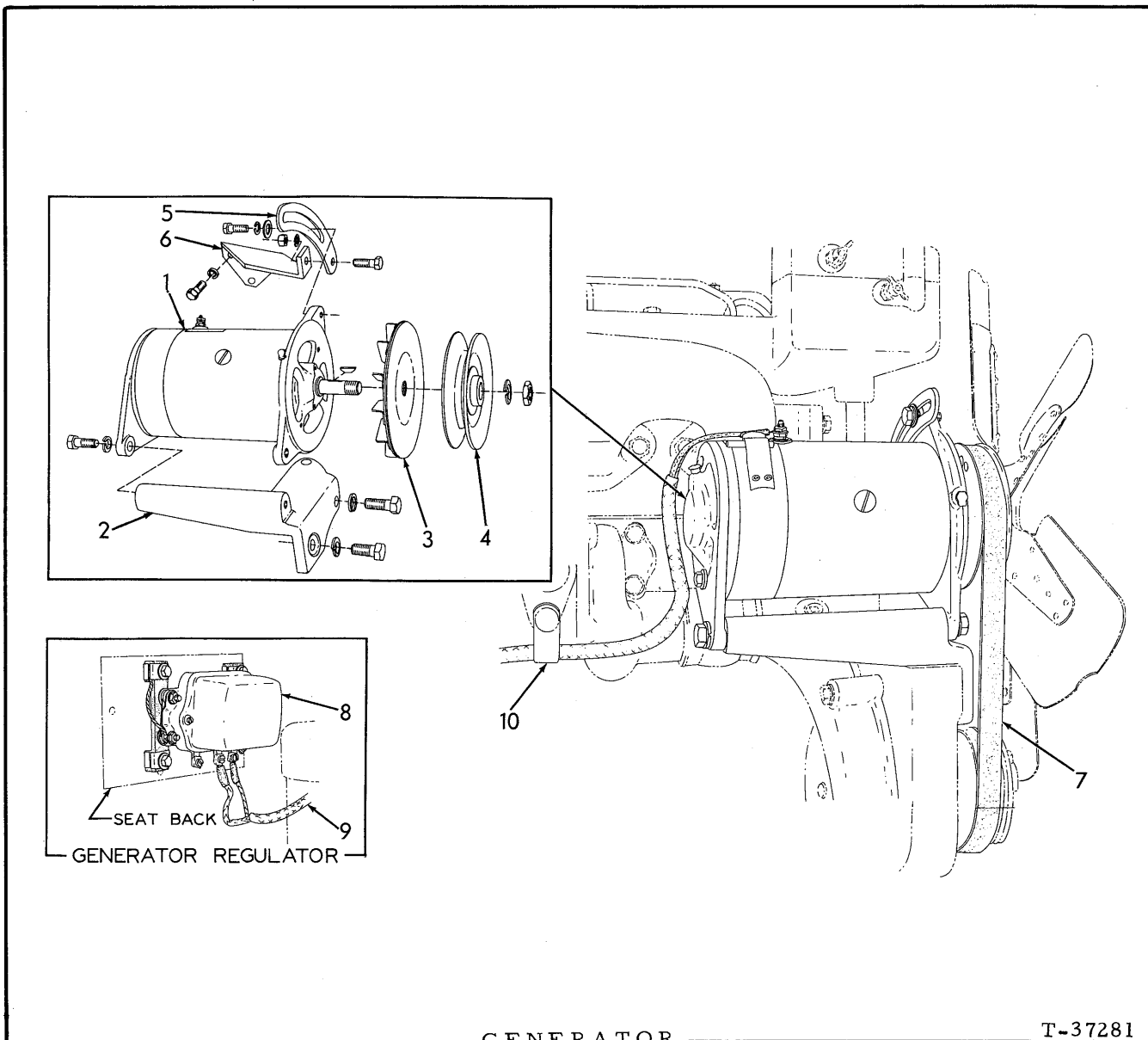
ITEM	PART NO.	QTY.	DESCRIPTION
1	70658151	1	GAUGE (Includes mounting clamp)
2	70645420	1	HOSE (See HOSE PARTS)
	70901763	1	COUPLING, pipe, 1/8"NPT
	70919173	1	ELBOW, flare type, 90°, 1/4" tube, 1/8"NPT male
3	70634371	1	TUBE ASSEMBLY, upper section (Includes nuts)
	70919214	1	UNION, flare type, 1/4" tube
4	70634377	1	TUBE ASSEMBLY, lower section (Includes nuts)
	70919140	1	CONNECTOR, flare type, 1/4" tube, 1/4"NPT male
	70901826	1	BUSHING, pipe reducing, 3/8"NPT to 1/4"NPT
5	70077341	1	CLIP, tube supporting (13/32" bolt-hole)
	70903628	1	CAPSCREW, 3/8"NC x 5/8"
	70911115	1	WASHER, plain, SAE std., 3/8"
6	70044044	2	CLIP, tube supporting (17/32" bolt-hole)
	70903637	1	CAPSCREW, 1/2"NC x 1"
	70910244	1	WASHER, plain, SAE std., 1/2"
	70911035	1	NUT, jam, 1/2"NC

} Early units



USAGE: See pages 250 and 251

ITEM	PART NO.	QTY.	DESCRIPTION
1	-----	1	BASE ASSEMBLY (Not serviced separately)
2	70074452	1	BULB, single contact, 6 c. p., 24 volts
3	70095267	1	LENS
4	70095265	1	SPRING, cover retaining
5	70659002	1	COVER



USAGE: Standard equipment on graders prior to serial No. 1968. See page 259 for optional alternator.

ITEM PART NO. QTY. DESCRIPTION

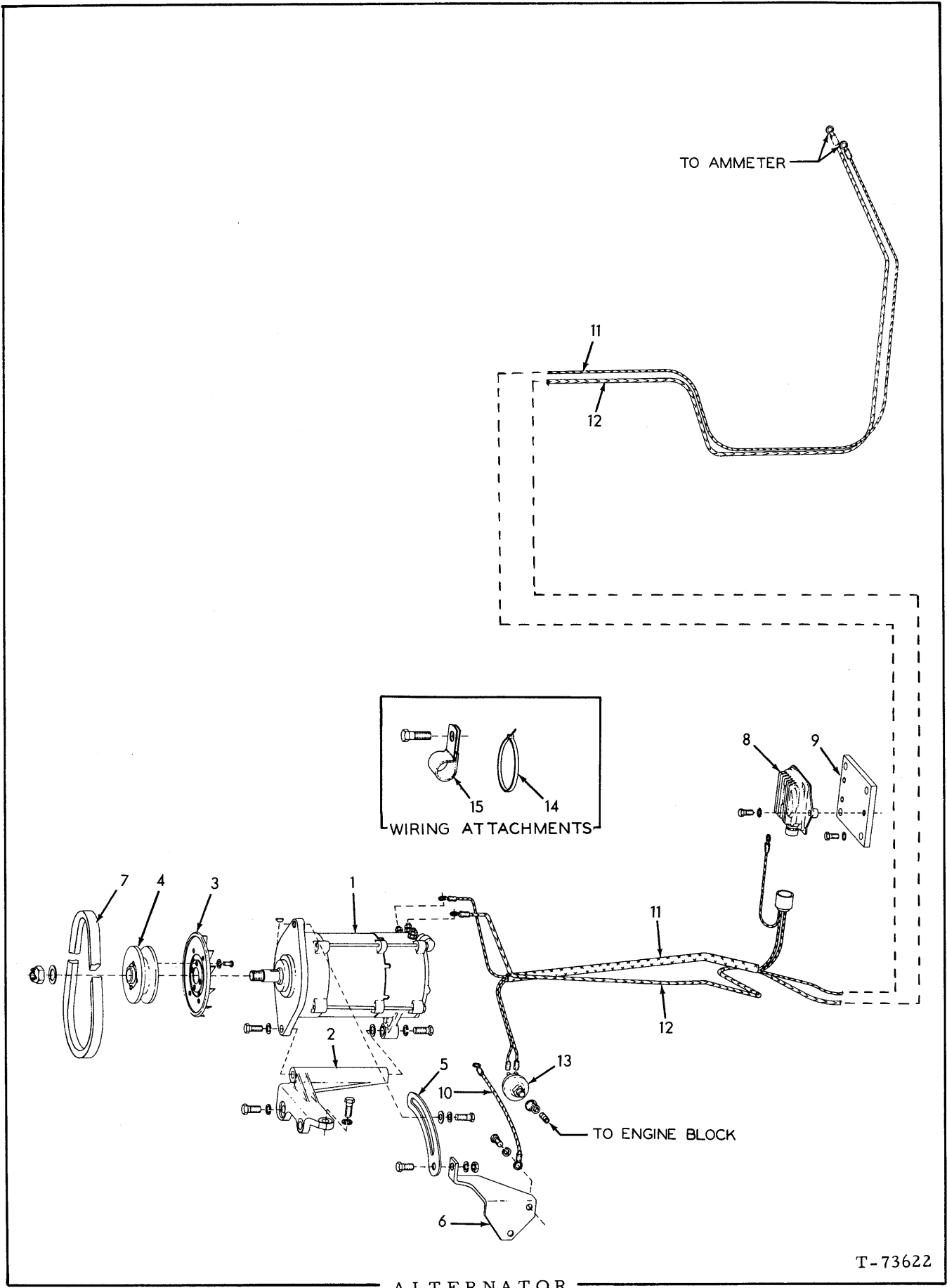
1	74347982	1	GENERATOR (Includes Key, Nut and Washer for pulley) (Delco-Remy #1105232. Order service parts from local United Motors Service agency)
	70916197	2	CAPSCREW, 7/16"NC x 1-1/4"
	70904207	2	LOCKWASHER, 7/16"
2	74336172	1	BRACKET, generator mounting
	70918683	1	CAPSCREW, 1/2"NC x 1-1/8"
	70919230	2	CAPSCREW, 1/2"NC x 1-3/8"
	70904208	3	LOCKWASHER, 1/2"
3	74374148	1	FAN, generator cooling
4	74339501	1	PULLEY

(Continued)

GENERATOR (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
5	74338269	1	BRACE, belt adjustment
	70915408	1	CAPSCREW, 3/8"NC x 3/4"
	70900817	1	WASHER, plain, U.S. std., 3/8"
	70904206	2	LOCKWASHER, 3/8"
	70910324	1	NUT, 3/8"NC
	70916269	1	CAPSCREW, 3/8"NC x 7/8"
6	74321107	1	BRACKET, belt adjustment brace
	70916271	2	CAPSCREW, 3/8"NC x 1"
	70904206	2	LOCKWASHER, 3/8"
7	74349778	1	BELT, generator and water pump
8	70184376	1	REGULATOR, voltage and current (Order parts from local United Motors Service agency)
	70905657	4	CAPSCREW, 1/4"NC x 1"
	70911114	4	WASHER, plain, SAE std., 1/4"
9	70621481	1	HARNESS, generator to regulator (2 cables)
10	70041262	2	CLIP, harness supporting

(Revised May 1978)



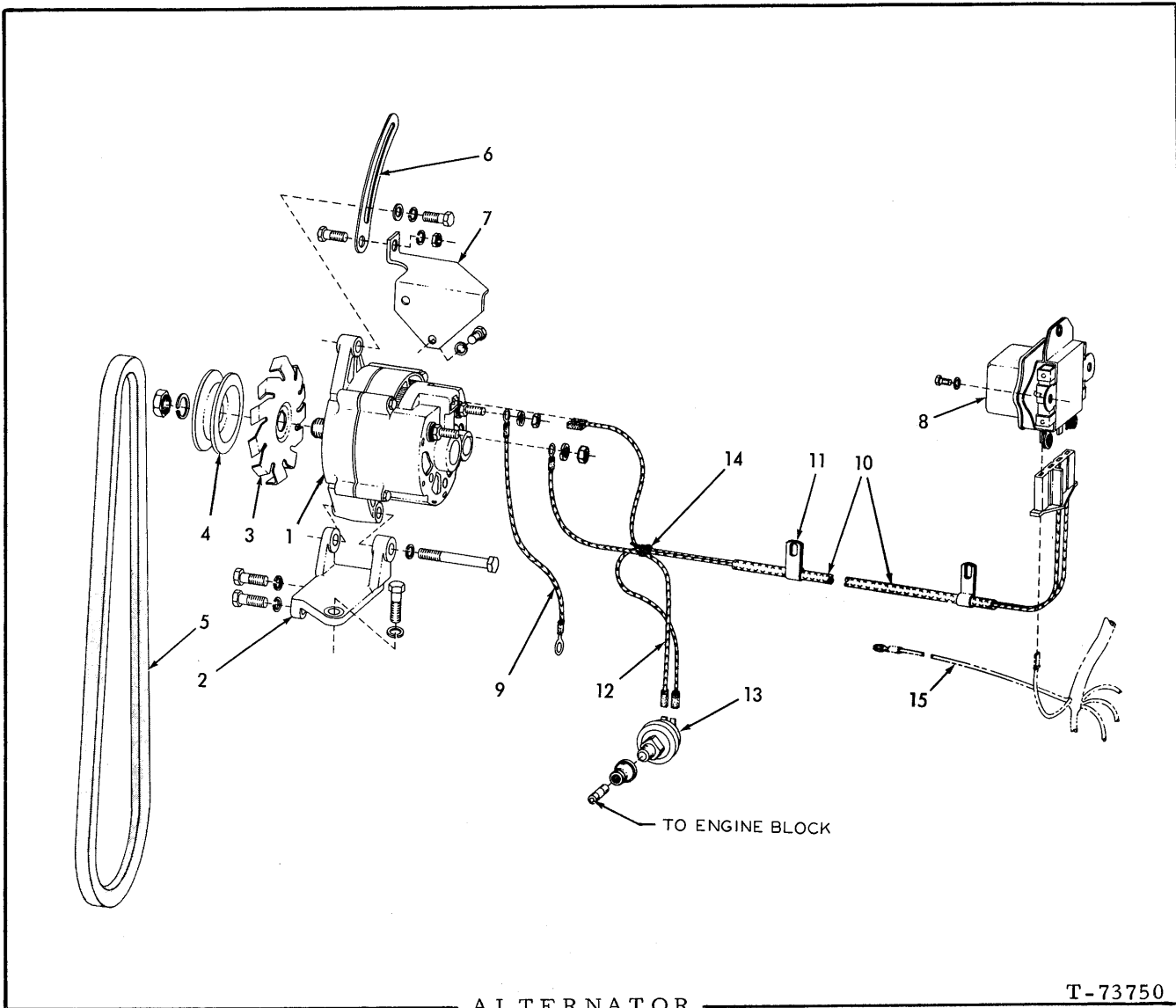
ALTERNATOR

T-73622

ALTERNATOR
(High Out-put)

USAGE: Optional equipment. Replaces standard generator or alternator.

ITEM	PART NO.	QTY.	DESCRIPTION
1	70188993	1	ALTERNATOR ASSEMBLY (60 amp. Includes Key, Nut and Washer for pulley)("Delco-Remy" #1117096. Order parts from local United Motors Service Agency)
	70919228	1	CAPSCREW, 7/16"NC x 1-1/8"
	70920648	1	CAPSCREW, 7/16"NC x 2"
	70904207	2	LOCKWASHER, 7/16"
	70074790	1	WASHER, plain
2	70648755	1	BRACKET, alternator mounting
	70913717	1	CAPSCREW, 1/2"NC x 1-1/8"
	70915666	2	CAPSCREW, 1/2"NC x 1-3/8"
	70904208	3	LOCKWASHER, 1/2"
3	70188996	1	FAN, cooling
	70901396	4	SCREW, machine, #12-24NC x 1/2"
	70906965	4	LOCKWASHER, #12
4	70650079	1	PULLEY
5	74338269	1	BRACE, belt adjustment
	70903630	1	CAPSCREW, 3/8"NC x 1"
	70900817	1	WASHER, plain, U. S. std., 3/8"
	70904206	2	LOCKWASHER, 3/8"
	70910324	1	NUT, 3/8"NC
	70916269	1	CAPSCREW, 3/8"NC x 7/8"
6	70650320	1	BRACKET, belt adjustment brace
	70903630	2	CAPSCREW, 3/8"NC x 1"
	70904206	2	LOCKWASHER, 3/8"
7	74336629	1	BELT, generator and water pump
8	74059345	1	REGULATOR, voltage and current (Order parts from local United Motors Service agency)
	70916282	3	CAPSCREW, 1/4"NC x 7/8"
	70914194	3	LOCKWASHER, int-ext tooth, 1/4"
9	70648787	1	PLATE, regulator mounting
	70915406	4	CAPSCREW, 1/4"NC x 3/4"
	70914194	4	LOCKWASHER, int-ext tooth, 1/4"
10	70650653	1	CABLE, alternator grounding
11	70648786	1	HARNESS, wiring
12	70648784	1	CABLE, alternator to ammeter
13	70640727	1	SWITCH, pressure, alternator cut-out
	70907061	1	COUPLING, pipe reducing, 1/4"NPT to 1/8"NPT
	70904273	1	NIPPLE, pipe, 1/8"NPT x 1"
14	70239726	3	TIE, wiring harness
15	70639314	7	CLIP, cable and harness supporting
	70915408	3	CAPSCREW, 3/8"NC x 3/4"



ALTERNATOR
(Medium Output)

T-73750

USAGE: Graders serial No. 1968 and up

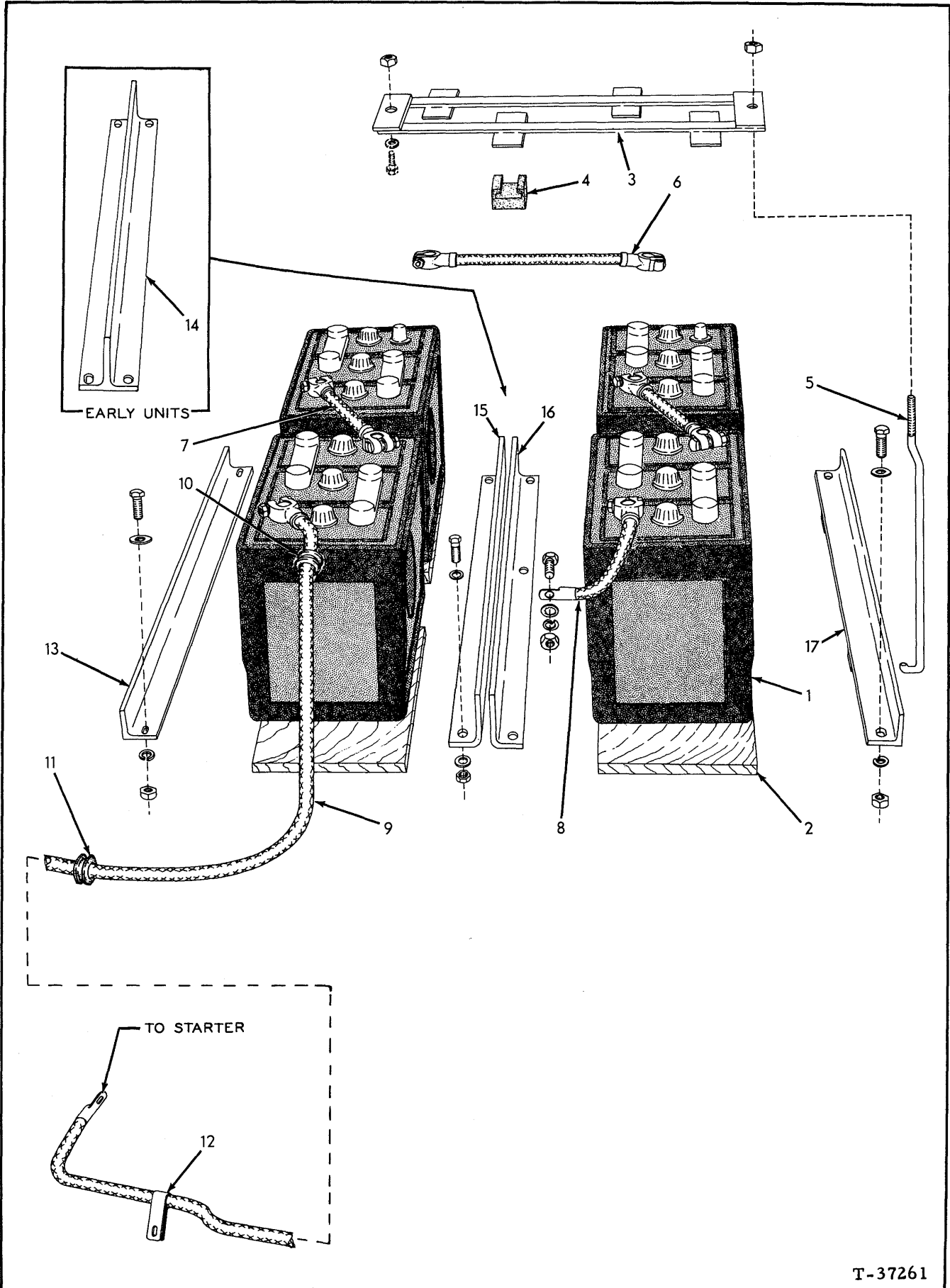
ITEM PART NO. QTY. DESCRIPTION

1	70650943	1	ALTERNATOR ASSEMBLY (Includes Nut and Washer for pulley) (Delco-Remy #1100748. Order service parts from local United Motors Service agency)
	70906695	1	CAPSCREW, 3/8"NC x 3-1/4"
	70904206	1	LOCKWASHER, 3/8"
	70910251	1	NUT, #10-32NF
	70904203	1	LOCKWASHER, #10
	70917376	1	NUT, #12-24NC
	70906965	1	LOCKWASHER, #12
			} For cable terminals
2	70650966	1	BRACKET, alternator mounting
	70913717	1	CAPSCREW, 1/2"NC x 1-1/8"
	70915666	2	CAPSCREW, 1/2"NC x 1-3/8"
	70904208	3	LOCKWASHER, 1/2"
3	70239967	1	FAN, alternator cooling

(Continued)

A L T E R N A T O R (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
4	70654397	1	PULLEY
5	74349778	1	BELT, alternator and water pump
6	70650964	1	BRACE, belt adjustment
	70903772	1	CAPSCREW, 5/16"NC x 1"
	70904205	1	LOCKWASHER, 5/16"
	70910335	1	WASHER, plain, SAE std., 5/16"
	70903630	1	CAPSCREW, 3/8"NC x 1"
	70904206	1	LOCKWASHER, 3/8"
	70910324	1	NUT, 3/8"NC
7	74338268	1	BRACKET, belt adjustment brace
	70916271	2	CAPSCREW, 3/8"NC x 1"
	70904206	2	LOCKWASHER, 3/8"
8	70650944	1	REGULATOR, voltage and current (Delco-Remy #1119518. Order parts from local United Motors Service Agency)
	70906692	2	CAPSCREW, 1/4"NC x 3/8"
	70904204	2	LOCKWASHER, 1/4"
9	70650977	1	CABLE, alternator grounding (10" long)
10	70654444	1	HARNESS, wiring
11	70041262	2	CLIP, alternator harness
12	70650978	1	CABLE, alternator to pressure switch (14" long)
13	70640727	1	SWITCH, pressure, alternator cut-out
	70907061	1	COUPLING, pipe reducing, 1/4"NPT to 1/8"NPT
	70904273	1	NIPPLE, pipe, 1/8"NPT x 1"
14	70239726	1	TIE, wiring harness (plastic)
15	-----	1	HARNESS, wiring (See Lights, Horn and Wiring)



BATTERIES AND CABLES

T-37261

BATTERIES AND CABLES

* Graders prior to #1209 (positive ground)
 ** Graders #1209 thru #1967 (positive ground)
 Δ Graders #1968 and up (negative ground)

ITEM	PART NO.	QUANTITY			DESCRIPTION
		*	**	Δ	
1	70695473	4	4	4	BATTERY, storage, 6 volt, dry-charged (Requires 6.1 qts. electrolyte)
1A	70243526	1	1	1	ELECTROLYTE ("Z" pack - 6.1 quarts)
	70243527	1	1	1	ELECTROLYTE ("F" pack - 5 gallons)
1B	70243528	1	1	1	HOSE, electrolyte dispensing (For use with 5-gal pack)
2	-----	4	4	4	BOARD, battery (Procure locally)
3	70621194	2	2	2	HOLD-DOWN, battery
	70911026	2	2	2	NUT, 3/8"NC
4	70085897	16	16	16	BLOCK, battery hold-down (rubber)
5	70620993	2	2	2	ROD, battery hold-down
	70911026	2	2	2	NUT, 3/8"NC
6	70086565	1	1	1	CABLE, battery connecting (11" long)
7	70086564	2	2	2	CABLE, battery connecting (8" long)
8	70096597	1	1	-	CABLE, battery to ground (8" long)(Units with standard generator)
	70648782	1	1	-	STRAP, battery to ground (11" long)(Units with optional alternator)
	70650971	-	-	1	STRAP, battery to ground (8" long)
9	70903638	1	1	1	CAPSCREW, 1/2"NC x 1-1/4"
	70906961	1	1	1	LOCKWASHER, internal teeth, 1/2"
	70904208	1	1	1	LOCKWASHER, 1/2"
	70911028	1	1	1	NUT, 1/2"NC
9	70086563	1	1	-	CABLE, battery to starting motor (48" long)(Units with standard generator)
	70631096	1	1	-	CABLE, battery to starting motor (54" long)(Units with optional alternator)
	70650972	-	-	1	CABLE, battery to starting motor (48" long)
10	70055418	1	1	1	GROMMET, cable protecting (3/4" thick)
11	70605164	1	-	-	GROMMET, cable protecting (1/2" thick)
12	70051311	1	1	1	CLIP, cable supporting (5/8" diam., 17/32" bolt-hole)

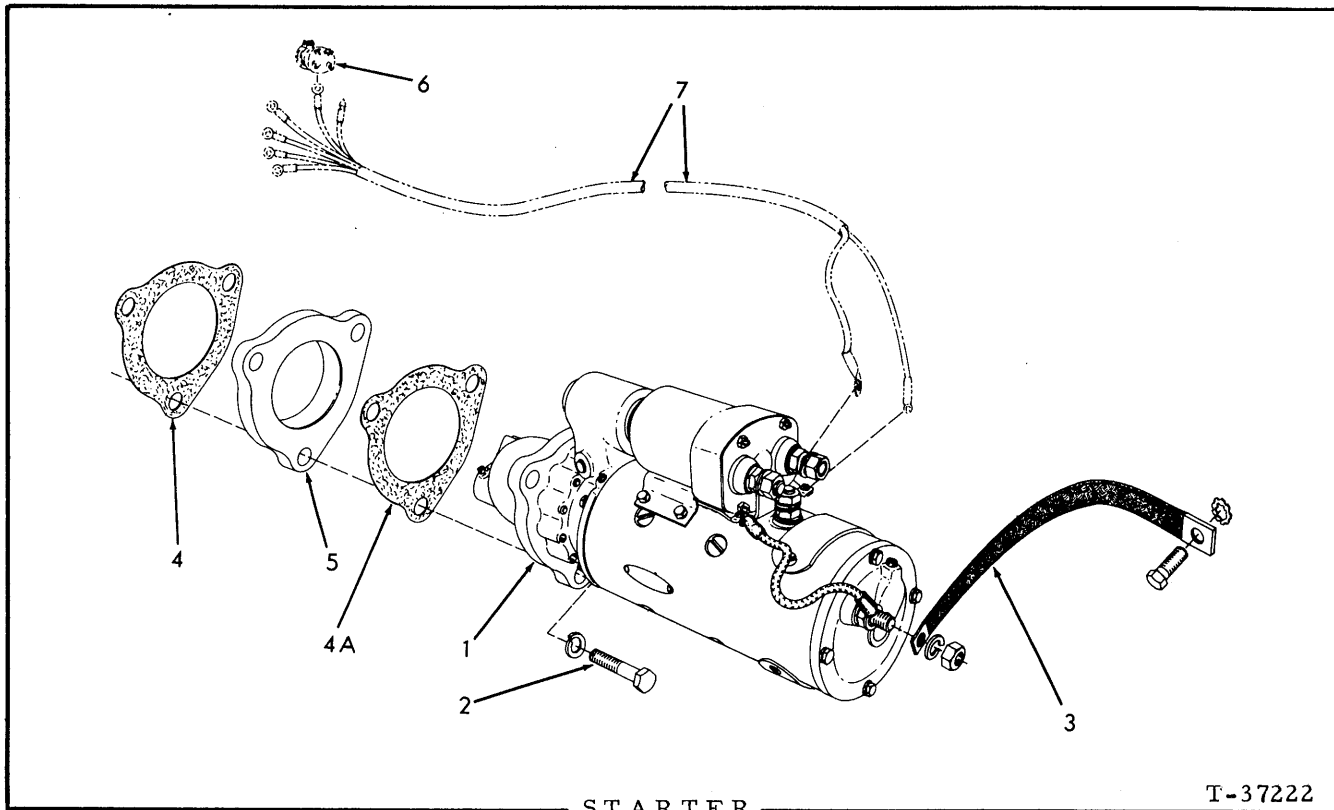
(Continued)

BATTERIES AND CABLES (Continued)

ITEM	PART NO.	QUANTITY			DESCRIPTION
		*	**	Δ	
13	70086254	1	-	-	ANGLE, battery supporting, rear
	70648763	-	1	1	ANGLE, battery supporting, rear
	70903630	2	2	2	CAPSCREW, 3/8"NC x 1"
	70911115	2	2	2	WASHER, plain, SAE std., 3/8"
	70904206	2	2	2	LOCKWASHER, 3/8"
	70911026	2	2	2	NUT, 3/8"NC
14	70086259	1	-	-	TEE, battery supporting
	70903630	4	-	-	CAPSCREW, 3/8"NC x 1"
	70911115	4	-	-	WASHER, plain, SAE std., 3/8"
	70904206	4	-	-	LOCKWASHER, 3/8"
	70911026	4	-	-	NUT, 3/8"NC
15	70648763	-	1	1	ANGLE, battery supporting, center rear
	70903630	-	2	2	CAPSCREW, 3/8"NC x 1"
	70911115	-	2	2	WASHER, plain, SAE std., 3/8"
	70904206	-	2	2	LOCKWASHER, 3/8"
	70911026	-	2	2	NUT, 3/8"NC
16	70652680	-	1	1	ANGLE, battery supporting, center front
	70903630	-	2	2	CAPSCREW, 3/8"NC x 1"
	70911115	-	2	2	WASHER, plain, SAE std., 3/8"
	70904206	-	2	2	LOCKWASHER, 3/8"
	70911026	-	2	2	NUT, 3/8"NC
17	70621200	1	-	-	ANGLE, battery supporting, front
	70903630	2	-	-	CAPSCREW, 3/8"NC x 1"
	70911115	2	-	-	WASHER, plain, SAE std., 3/8"
	70904206	2	-	-	LOCKWASHER, 3/8"
	70911026	2	-	-	NUT, 3/8"NC

NOTE: Reversed polarity used with alternators (negative ground)

MEMO



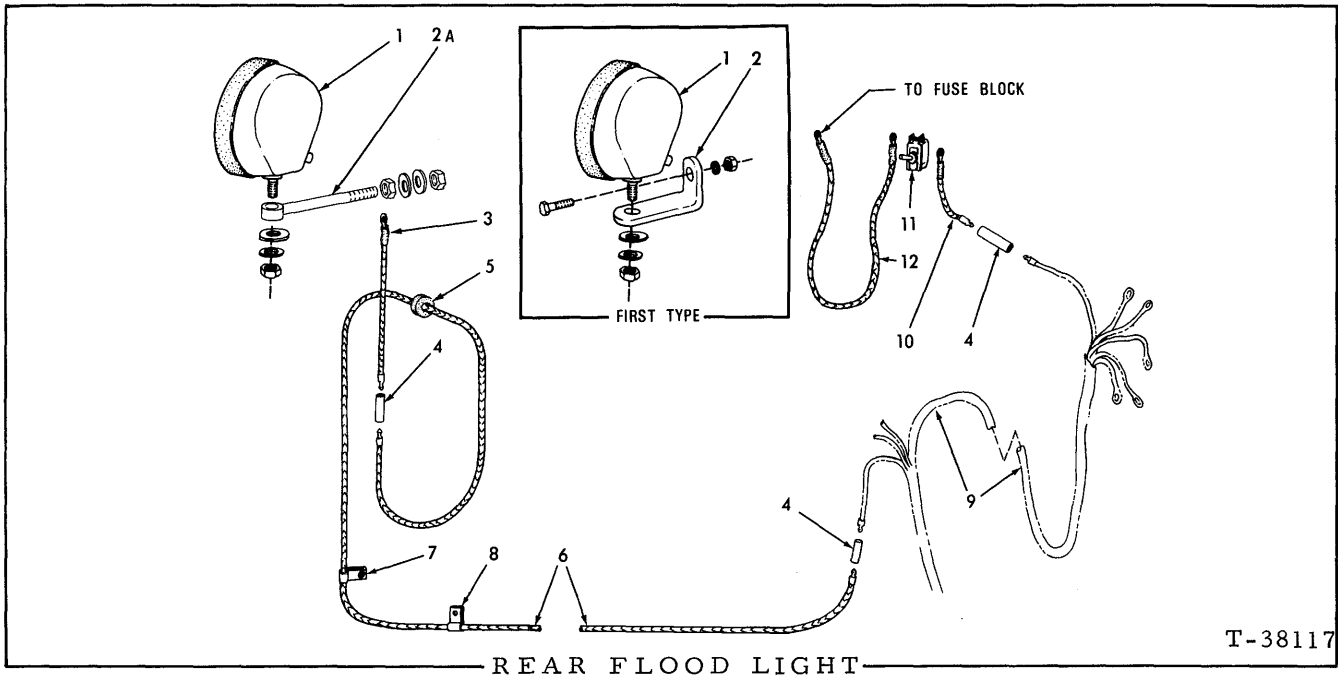
STARTER

T-37222

ITEM	PART NO.	QTY.	DESCRIPTION
1	-----	1	MOTOR, starting (Delco-Remy No. 1113900)(Original equipment. Order MOTOR 73117237
	73117237	1	MOTOR, starting (Delco-Remy No. 1113898)(Service replacement unit)
2	70621456	3	CAPSCREW, Nylok, 5/8"NC x 2-1/2"
	70904209	3	LOCKWASHER, 5/8"
3	70073480	1	STRAP, starter to ground
	70903628	1	CAPSCREW, 3/8"NC x 5/8"
	70915898	1	LOCKWASHER, int-ext-tooth, 3/8"
4	70620420	1	GASKET, starting motor adapter (4" diam.)
4 A	70620366	1	GASKET, starting motor (3-11/16" diam.)
5	70621278	1	ADAPTER, starting motor
6	-----	1	SWITCH (See INSTRUMENTS)
7	-----	1	WIRING HARNESS (See LIGHTS, HORN AND WIRING)
8	70648783	1	CABLE, starter to ammeter (103" long)
9	70641566	1	CLIP, ammeter cable (9/32" bolt-hole)
10	70639314	3	CLIP, ammeter cable

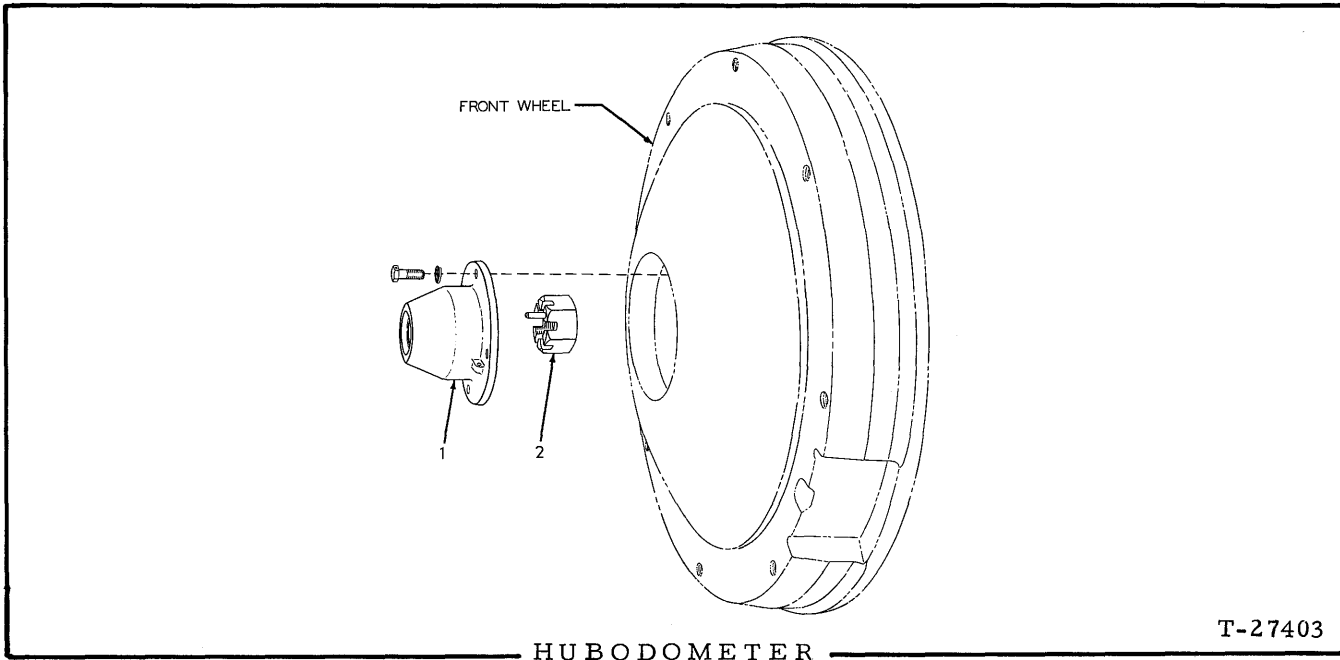
Units with optional alternator. Not illustrated

(Revised May 1981)



USAGE: Special equipment

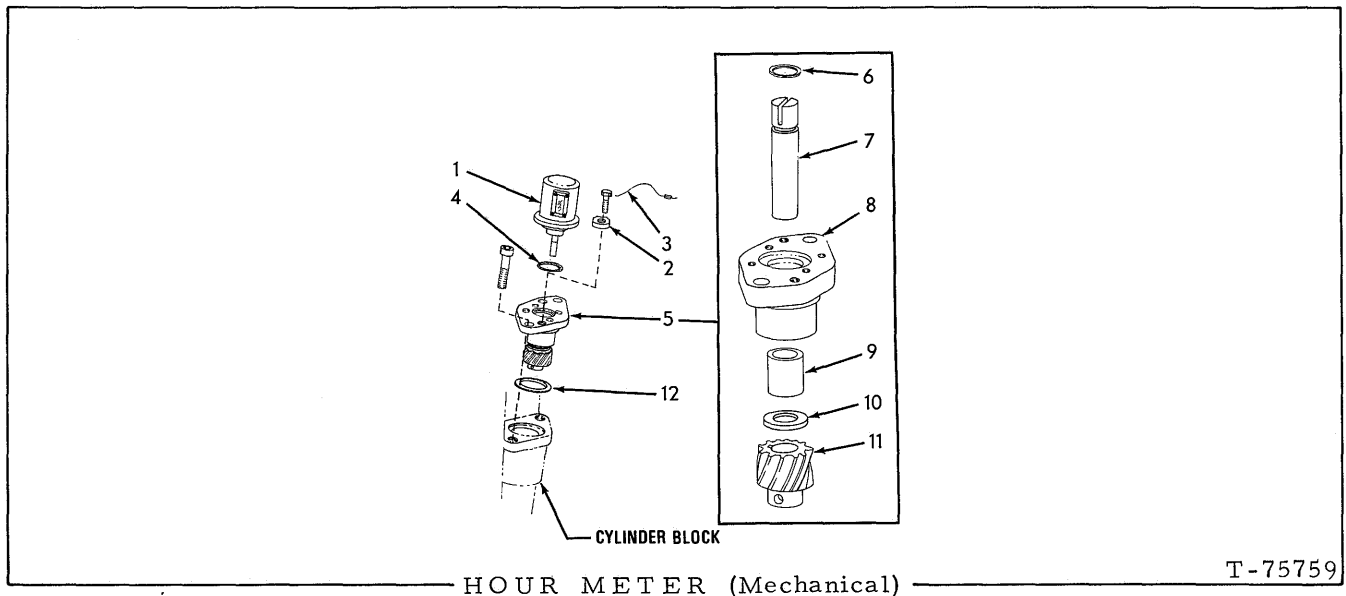
ITEM	PART NO.	QTY.	DESCRIPTION
1	70621429	1	LIGHT ASSY. (See page 249)
	70910244	1	WASHER, plain, SAE std., 1/2" (Early units)
	70064531	1	WASHER, plain (Late units)
	70904208	1	LOCKWASHER, 1/2"
	70911043	1	NUT, 1/2"NF
2	70621903	1	BRACKET, mounting (Early units)
	70903630	1	CAPSCREW, 3/8"NC x 1"
	70904206	1	LOCKWASHER, 3/8"
	70911026	1	NUT, 3/8"NC
2A	70065935	1	BOLT, eye, light mounting (Late units)
	70910244	2	WASHER, plain, SAE std. 1/2"
	70911035	2	NUT, jam, 1/2"NC
3	70621892	1	CABLE, flood light to connector (4" long)
4	70048142	3	CONNECTOR, cable
5	70083987	1	CROMMET, cable protecting
6	70089453	1	CABLE, connector to wiring harness (145" long)
7	70200479	8	CLIP, cable supporting (3/16" diam., 13/32" bolt-hole)
8	70238136	1	CLIP, cable supporting (3/16" diam., 9/32" bolt-hole)
9	-----	1	HARNES, wiring (See LIGHTS, HORN AND WIRING)
10	70068367	1	CABLE, wiring harness to toggle switch (9" long)(First type)
	70621892	1	CABLE, wiring harness to toggle switch (4" long)(Second type)
	70078694	1	CABLE, wiring harness to toggle switch (13" long)(Third type)
11	70639726	1	SWITCH, toggle (Includes mounting nuts)
12	70068337	1	CABLE, toggle switch to fuse block (11" long)(First type)
	70083097	1	CABLE, toggle switch to fuse block (19" long)(Second type)
	70658747	1	CABLE, toggle switch to terminal block (14" long)(Third type)



USAGE: Special Equipment

- * Units with 9.00 tires
- ** Units with 13.00 tires

ITEM	PART NO.	QTY.		DESCRIPTION
		*	**	
1	70637782	1	-	HUBODOMETER (Registers miles)
	70637784	-	1	HUBODOMETER (Registers miles)
	70637783	1	-	HUBODOMETER (Registers kilometers)
	70637785	-	1	HUBODOMETER (Registers kilometers)
	70903775	4	4	CAPSCREW, 3/8"NC x 7/8"
	70904206	4	4	LOCKWASHER, 3/8"
2	70637781	1	-	NUT ASSEMBLY, hubodometer drive (Includes long drive pin)
	70620011	-	1	NUT ASSEMBLY, hubodometer drive (Includes short drive pin)



USAGE: Standard equipment. Effective with engine serial No. 10-14945 and 11-17383

ITEM	PART NO.	QTY.	DESCRIPTION
1	74359290	1	METER, hour (Serviced only as a unit)
2	74359293	2	CLAMP, meter retaining
	74027687	2	SCREW, hex-socket hd., 1/4"NF x 7/8"
	70904204	2	LOCKWASHER, 1/4"
3	74355843	1	SEAL, anti-tampering
4	70923934	1	O-RING, meter mounting
5	74359237	1	ADAPTER ASSY. (Consists of items 6 thru 11)
	74359231	2	SCREW, hex-socket hd., 3/8"NC x 2-1/4"
6	70927782	1	RING, shaft retaining
7	74359271	1	SHAFT, drive
8	-----	1	HOUSING, adapter (Not serviced separately, order item 5)
9	74255962	1	BUSHING, adapter housing
10	74359308	1	BEARING, thrust (washer)
11	74660408	1	GEAR, drive shaft
12	74253773	1	GASKET, adapter

MEMO

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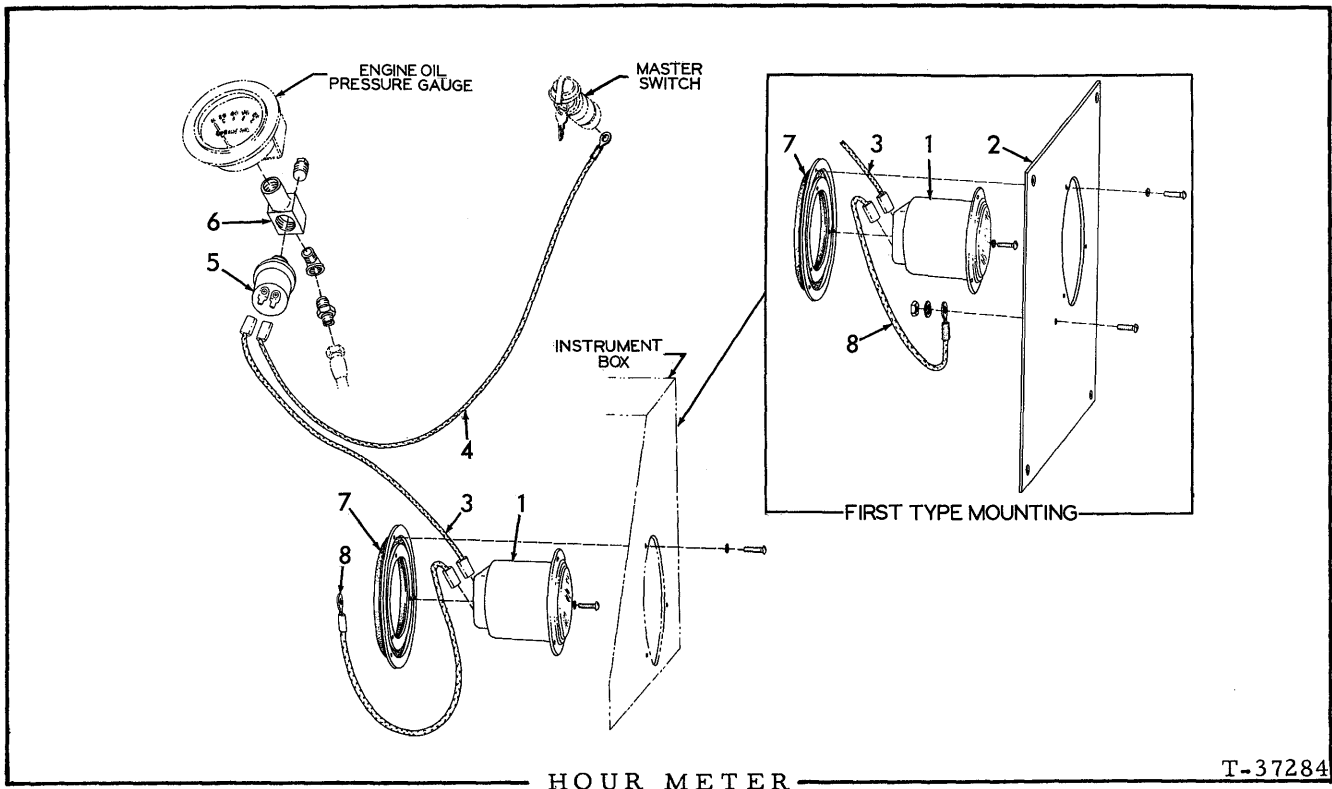
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264B



T-37284

USAGE: Special Equipment

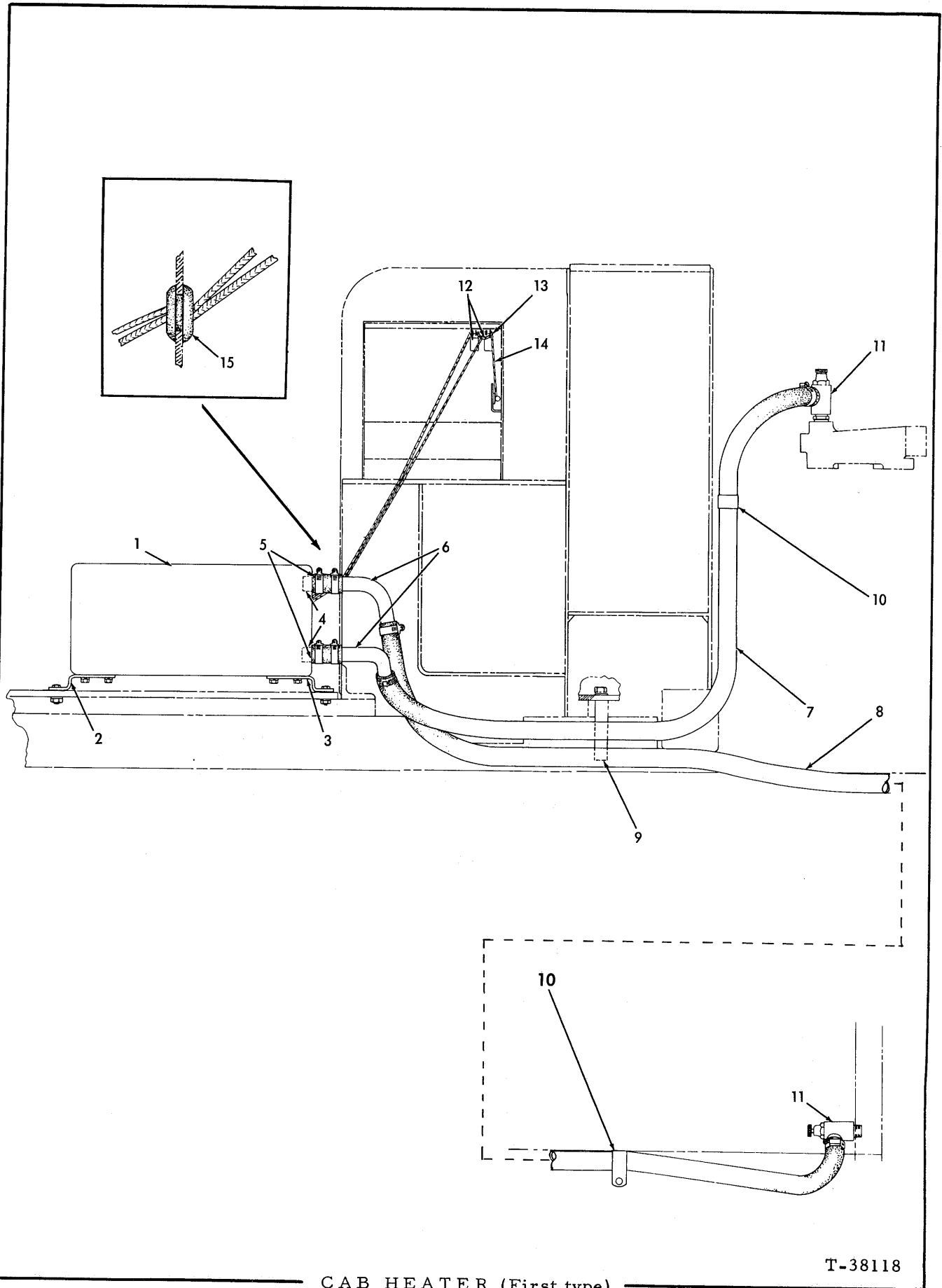
*Used prior to September 1963

**Effective September 1963

ITEM	PART NO.	QTY.		DESCRIPTION
		*	**	
1	70650299	1	1	METER, hour (See NOTE below)
	70903752	3	3	SCREW, machine, #6-32NC x 1/2"
	70912729	3	3	LOCKWASHER, internal teeth, #6

NOTE: Meter carries manufacturer's warranty and in case of failure should not be returned to Fiat-Allis. Return "Hobbs" meter to nearest "Stewart-Warner" agency. Return "Hamilton" meter to Hamilton Watch Company, Industrial Products Division, Lancaster, Pa.

2	70634481	1	-	PLATE, seat closure, left side (Replaces standard PLATE 70639115)
3	70630738	1	-	CABLE, meter to pressure switch
	70641682	-	1	CABLE, meter to pressure switch
4	70095860	1	-	CABLE, pressure switch to master switch
	70641663	-	1	CABLE, pressure switch to master switch
5	70050288	1	-	SWITCH, pressure
	70640727	-	1	SWITCH, pressure
6	70094450	1	1	TEE, pressure switch connection
	70901651	1	1	PLUG, pipe, 1/8"NPT
	70907059	1	1	ELBOW, street, 90°, 1/8"NPT
	70919171	1	1	CONNECTOR, flare type, 1/4" tube, 1/8"NPT male
7	70066467	1	1	DAMPER, vibration
	70903752	3	3	SCREW, machine, #6-32NC x 1/2"
	70912729	3	3	LOCKWASHER, internal teeth, #6
8	70630917	1	-	CABLE, meter ground
	70914089	1	-	SCREW, machine, 1/4"NF x 1/2"
	70904204	1	-	LOCKWASHER, 1/4"
	70911040	1	-	NUT, 1/4"NF
	70641663	-	1	CABLE, meter ground



CAB HEATER (First type)

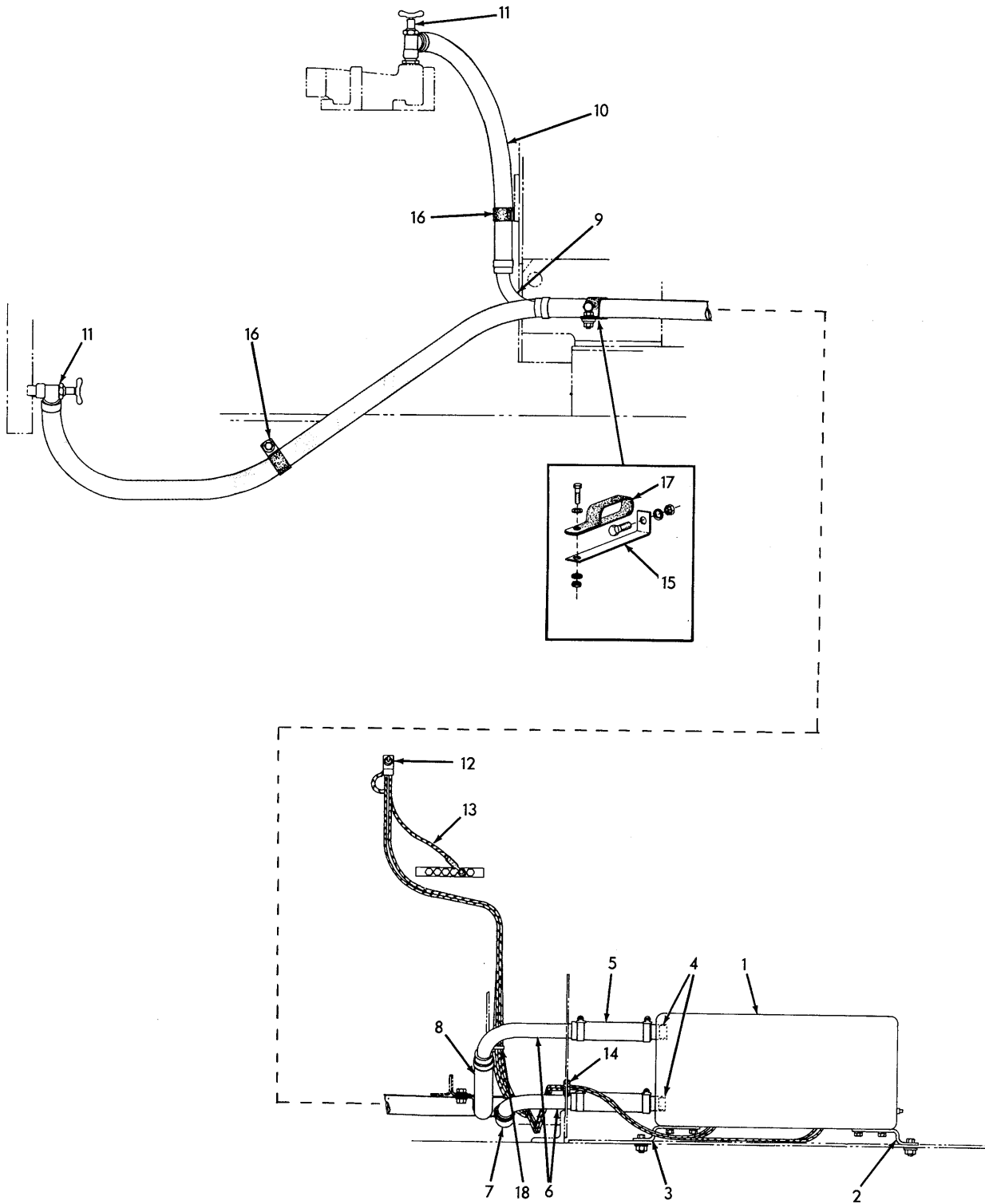
T-38118

CAB HEATER

USAGE: Special equipment on graders prior to serial No. 1702

ITEM	PART NO.	QTY.	DESCRIPTION
1	70621734	1	HEATER ASSEMBLY (Model B-6123-24V. Order parts from Bergstrom Mfg. Co., 115 N. Madison, Rockford, Illinois)
	70905661	4	CAPSCREW, 5/16"NC x 5/8"
	70904205	4	LOCKWASHER, 5/16"
2	70624791	1	BRACKET, mounting, front
	70910245	1	CAPSCREW, 3/8"NC x 1-3/8"
	70900817	1	WASHER, plain, U.S. std., 3/8"
	70911026	1	NUT, 3/8"NC
3	70624792	1	BRACKET, mounting, rear
	70910245	1	CAPSCREW, 3/8"NC x 1-3/8"
	70900817	1	WASHER, plain, U.S. std., 3/8"
	70911026	1	NUT, 3/8"NC
4	70623363	2	PIPE, hose connecting
5	70640093	2	HOSE, elbow to heater (2" long)
	70921912	4	CLAMP, hose, 1-1/16" to 2" diam.
6	70640092	2	ELBOW, water hose
7	70640296	1	HOSE, heater to water manifold (66" long)
	70921912	2	CLAMP, hose, 1-1/16" to 2" diam.
8	70640297	1	HOSE, heater to timing gear housing (78" long)
	70921912	2	CLAMP, hose, 1-1/16" to 2" diam.
9	70624793	1	ANGLE, hose retaining
10	70640298	2	CLIP, hose supporting
	70903628	1	CAPSCREW, 3/8"NC x 5/8"
	70911115	1	WASHER, plain, SAE std., 3/8"
11	70621736	2	VALVE, water shut-off (angle type, 1/2"NPT female)
	70901500	2	NIPPLE, pipe, 1/2"NPT
	70901828	1	BUSHING, pipe reducing, 3/4"NPT to 1/2"NPT
12	70639726	2	SWITCH, toggle (Includes mounting nuts)
13	70051006	1	WIRE, jumper, toggle switch (4-1/2" long)
14	70078694	1	CABLE, switch to terminal block (13" long)
15	70910869	1	GROMMET, switch cable (rubber)

(Revised May 1978)



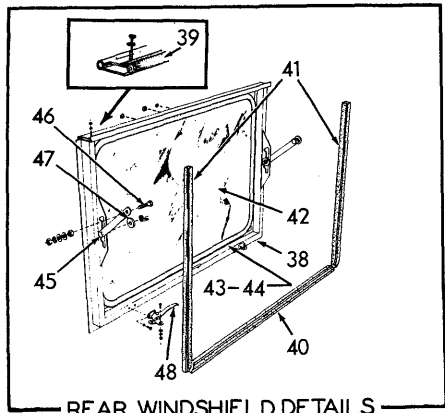
CAB HEATER (Second type)

T-73627

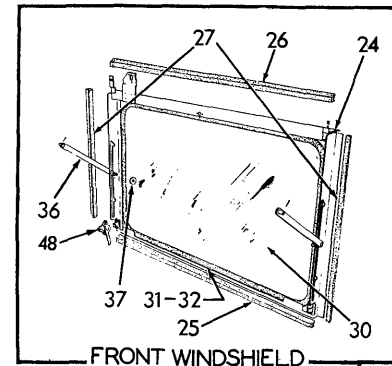
CAB HEATER

USAGE: Special equipment on graders serial No. 1702 and up

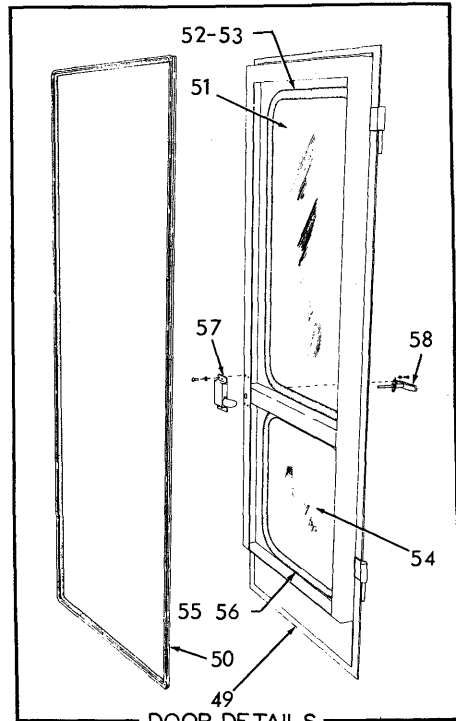
ITEM	PART NO.	QTY.	DESCRIPTION
1	70652679	1	HEATER ASSEMBLY (Two-speed. Order parts from Bergstrom Mfg. Co., 115 N. Madison, Rockford, Illinois)(Includes item 4)
	70901651	1	PLUG, pipe, 1/8"NPT (drain)
	70911025	4	NUT, 5/16"NC
	70904205	4	LOCKWASHER, 5/16"
2	70624792	1	BRACKET, mounting, front
	70903630	1	CAPSCREW, 3/8"NC x 1"
	70900817	1	WASHER, plain, U.S. std., 3/8"
	70911026	1	NUT, 3/8"NC
3	70624791	1	BRACKET, mounting, rear
	70903630	1	CAPSCREW, 3/8"NC x 1"
	70900817	1	WASHER, plain, U.S. std., 3/8"
	70911026	1	NUT, 3/8"NC
4	70623363	2	PIPE, hose connecting
5	70652677	2	HOSE, elbow to heater (6" long)
	70921912	4	CLAMP, hose, 1-1/16" to 2" diam.
6	70652678	2	ELBOW, water hose, front
7	70652675	1	HOSE, heater to water manifold, intermediate (54" long)
	70921912	2	CLAMP, hose, 1-1/16" to 2" diam.
8	70652676	1	HOSE, heater to timing gear housing (100" long)
	70921912	2	CLAMP, hose, 1-1/16" to 2" diam.
9	70652674	1	ELBOW, water hose, rear
10	70652673	1	HOSE, heater to water manifold, rear (24-1/2" long)
	70921912	2	CLAMP, hose, 1-1/16" to 2" diam.
11	70621736	2	VALVE, water shut-off (angle type, 1/2"NPT female)
	70901500	2	NIPPLE, pipe, 1/2"NPT
	70901828	1	BUSHING, pipe reducing, 3/4"NPT to 1/2"NPT
12	70655467	1	SWITCH, toggle (Includes mounting nuts)
13	70655465	1	CABLE, switch to terminal block
14	70040758	1	GROMMET, switch cable (rubber)
15	70653046	1	ANGLE, hose retaining
	70903638	1	CAPSCREW, 1/2"NC x 1-1/4"
	70910244	1	WASHER, plain, SAE std., 1/2"
	70911028	1	NUT, 1/2"NC
16	70049769	2	CLIP, hose supporting
	70905655	1	CAPSCREW, 1/4"NC x 1/2"
	70911114	1	WASHER, plain, SAE std., 1/4"
	70903628	1	CAPSCREW, 3/8"NC x 5/8"
	70911115	1	WASHER, plain, SAE std., 3/8"
17	70621728	2	CLIP, hose supporting
	70903630	2	CAPSCREW, 3/8"NC x 1"
	70911115	4	WASHER, plain, SAE std., 3/8"
	70911034	2	NUT, jam, 3/8"NC
18	70239726	3	TIE, heater cable



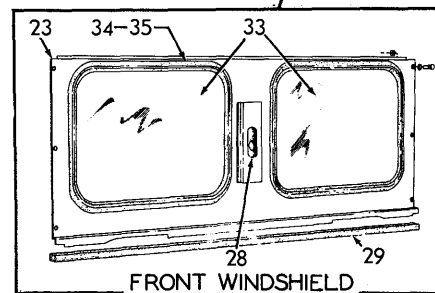
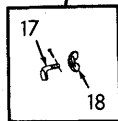
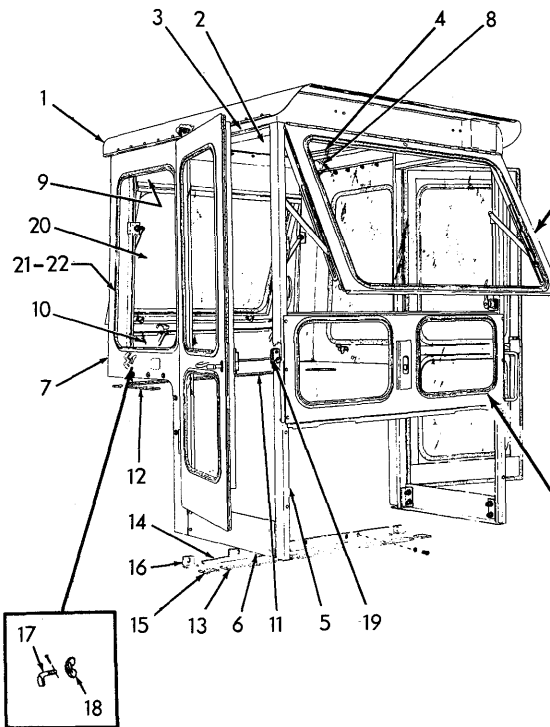
REAR WINDSHIELD DETAILS



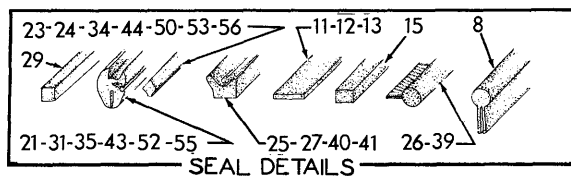
FRONT WINDSHIELD DETAILS (UPPER)



DOOR DETAILS



FRONT WINDSHIELD DETAILS (LOWER)



SEAL DETAILS

C A B

* Knock-down type
 ** Welded type

ITEM	PART NO.	QTY. * **	DESCRIPTION
-	-----	1	BODY WELDMENT (Includes item 1)(Not serviced)
	70916271	10	CAPSCREW, 3/8"NC x 1"
	70911115	20	WASHER, plain, SAE std., 3/8"
	70904206	10	LOCKWASHER, 3/8"
	70911026	10	NUT, 3/8"NC
	70915987	8	CAPSCREW, 1/2"NC x 1-1/2"
	70900818	8	WASHER, plain, U.S. std., 1/2"
	70904208	8	LOCKWASHER, 1/2"
	70911028	8	NUT, 1/2"NC
	70641684	1	TOP (Used prior to May 1967)
1	70659472	1	TOP (Effective May 1967)
	-----	1	TOP (Not serviced)
	70903626	26	CAPSCREW, 5/16"NC x 3/4"
	70903771	2	CAPSCREW, 5/16"NC x 7/8"
	70910335	28	WASHER, plain, SAE std., 5/16"
	70904205	28	LOCKWASHER, 5/16"
	70911025	28	NUT, 5/16"NC
	70912187	4	CAPSCREW, 7/16"NC x 1"
	70912298	4	WASHER, plain, SAE std., 7/16"
	70904207	4	LOCKWASHER, 7/16"
	70911027	4	NUT, 7/16"NC
	-----	1	HEADLINER (3/4" thick, celotex)(Procure locally)
2	70667015	1	HEADLINER, rear (polyester foam, 1/2" x 23-1/2 x 63-1/4")
	70667016	1	HEADLINER, front (polyester foam, 1/2" x 32-1/4" x 63-1/4")
3	70642326	1	RIB, supporting, insulating panel (right side)
4	70642325	1	RIB, supporting, insulating panel (left side)
5	70642050	1	POST, support, right front
	70642049	1	POST, support, left front
6	70642356	1	SILL, right door
	70642355	1	SILL, left door
	70903630	8	CAPSCREW, 3/8"NC x 1"
	70911115	8	WASHER, plain, SAE std., 3/8"
	70904206	8	LOCKWASHER, 3/8"
	70911026	8	NUT, 3/8"NC
7	70642264	1	PANEL, side, right
	70642263	1	PANEL, side, left
	70650556	1	PANEL, side, right
	70650555	1	PANEL, side, left
	70916271	10	CAPSCREW, 3/8"NC x 1"
	70911115	20	WASHER, plain, SAE std., 3/8"
	70904206	10	LOCKWASHER, 3/8"
	70911026	10	NUT, 3/8"NC

Used prior to October 1965 } Stripped
 Effective October 1965 } of all
 } removable
 } parts

(Continued)

C A B (Continued)

ITEM	PART NO.	QTY.		DESCRIPTION
		*	**	
8	70642067	2	-	SEAL, side panel to top
9	70641850	1	-	PANEL, rear upper (Used prior to May 1967)
	70659466	1	-	PANEL, rear upper (Effective May 1967)
	70903626	4	-	CAPSCREW, 5/16"NC x 3/4"
	70904205	4	-	LOCKWASHER, 5/16"
	70911025	4	-	NUT, 5/16"NC
10	70641958	1	-	PANEL, rear lower (Used prior to October 1965)
	70903626	6	-	CAPSCREW, 5/16"NC x 3/4"
	70910335	12	-	WASHER, plain, SAE std., 5/16"
	70904205	6	-	LOCKWASHER, 5/16"
	70911025	6	-	NUT, 5/16"NC
	70650557	1	-	PANEL, rear lower (Effective October 1965)
	70903632	2	-	CAPSCREW, 3/8"NC x 1-1/2" (2 additional required effective March 15, 1968)
	70915987	6	-	CAPSCREW, 3/8"NC x 3/4"
	70911115	6	-	WASHER, plain, SAE std., 3/8"
	70904206	8	-	LOCKWASHER, 3/8" } 2 additional required
70911026	8	-	NUT, 3/8"NC } effective March 15, 1968	
11	70633531	1	-	SEAL, rear panel to fuel tank
	70667012	-	1	PAD, sealing, rear panel to fuel tank
12	70633532	2	-	SEAL, side panel to fuel tank
	70667014	-	2	PAD, sealing, side panel to fuel tank(side piece)
	70667013	-	2	PAD, sealing, side panel to fuel tank(corner piece)
13	70641924	1	1	SEAL, seat and tank to floor, center (1/8" thick)
14	70655466	1	1	ANGLE, retaining, center seal (For units with cab heater on right side)
	70650551	1	1	ANGLE, retaining, center seal (For units with cab heater on left side)
	70915803	1	1	SCREW, hex-hd., thread-cutting, 5/16"NC x 5/8"
	70910335	1	1	WASHER, plain, SAE std., 5/16"
15	70642442	2	2	SEAL, seat and tank to floor, side (3/8" thick)
16	70642444	1	1	ANGLE, seal retaining, right side
	70642443	1	1	ANGLE, seal retaining, left side
17	70681455	2	2	HOOK, door hold-back
	70906759	2	2	SCREW, drive, #4 x 1/4"
18	70085559	2	2	NUT, wing, 5/8"NC
19	70633545	2	2	PLATE, stricker, door latch
	70914793	4	4	CAPSCREW, flat-hd., 1/4"NC x 3/4"
	70914194	4	4	LOCKWASHER, int-ext-tooth, 1/4"
	70911024	4	4	NUT, 1/4"NC

(Continued)

(Revised May 1978)

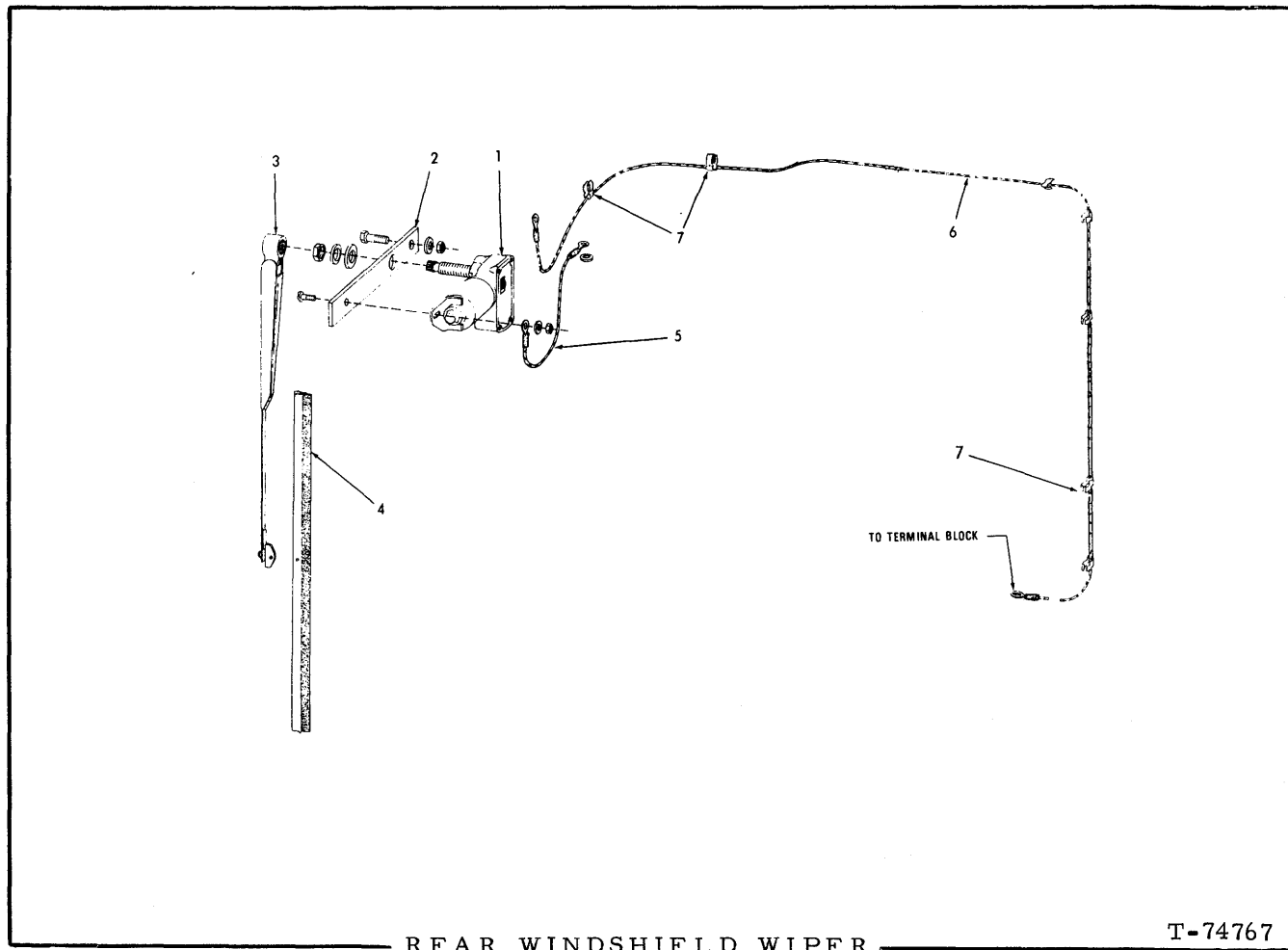
C A B (Continued)

ITEM	PART NO.	QTY.		DESCRIPTION
		*	**	
20	70642353	2	2	GLASS, side panel
21	70642460	2	2	SEAL, side panel glass
22	70642490	2	2	STRIP, expanding, side panel glass seal
23	70642295	1	-	FRAME, front panel (Stripped of all removable parts)
	70903626	6	-	CAPSCREW, 5/16"NC x 3/4"
	70904205	6	-	LOCKWASHER, 5/16"
	70911025	6	-	NUT, 5/16"NC
24	70642431	1	-	FRAME, front windshield (Used prior to May 1967)(Stripped of all removable parts)
	70659469	1	1	FRAME, front windshield (Effective May 1967)(Stripped of all removable parts)
	70918157	9	9	SCREW, truss-hd., 1/4"NC x 3/4"
	70904204	9	9	LOCKWASHER, 1/4"
	70911024	9	9	NUT, 1/4"NC
25	70642527	1	1	SEAL, front windshield, bottom
26	70638331	1	1	SEAL, front windshield frame hinge
27	70642525	2	2	SEAL, front windshield, side
28	70642434	1	1	SEAL, steering wheel shaft opening
29	70642547	1	1	SEAL, front panel
30	70642436	1	1	GLASS, front windshield
31	70642462	1	1	SEAL, upper front windshield glass
32	70642492	1	1	STRIP, expanding, front windshield glass seal
33	70642439	2	2	GLASS, front panel
34	70089020	2	2	SEAL, front panel glass
35	70089022	2	2	STRIP, expanding, front panel glass seal
36	70641974	2	2	ARM, front windshield adjustment
	70910967	2	2	PIN, cotter, 1/8" x 7/8"
	70915018	2	2	NUT, wing, 1/2"NC
	70906759	2	2	SCREW, drive, #4 x 1/4"
37	70641961	2	2	SPACER, front windshield adjustment arm
38	-----	1	-	FRAME, rear windshield (Used prior to March 15, 1968. Order 70663252, GLASS 70663247, SEAL 70663246 and STRIP 70663233)
	70663252	1	1	FRAME, rear windshield (Stripped of all removable parts) (Effective March 15, 1968)
	-----	-	1	PLUG, button, 1/4" hole-diam. (Procure locally)
	70923392	-	1	PLUG, button, 13/32" hole-diam.
	70921191	-	1	PLUG, button, 11/16" hole-diam.
	70918157	9	9	SCREW, truss-hd., 1/4"NC x 3/4"
	70904204	9	9	LOCKWASHER, 1/4"
	70911024	9	9	NUT, 1/4"NC
39	70638327	1	1	SEAL, rear windshield frame hinge
40	70642526	1	1	SEAL, rear windshield, bottom
41	70642524	2	2	SEAL, rear windshield, side
42	70641759	1	-	GLASS, rear windshield (Used prior to March 15, 1968)
	70663247	1	1	GLASS, rear windshield (Effective March 15, 1968)

(Continued)

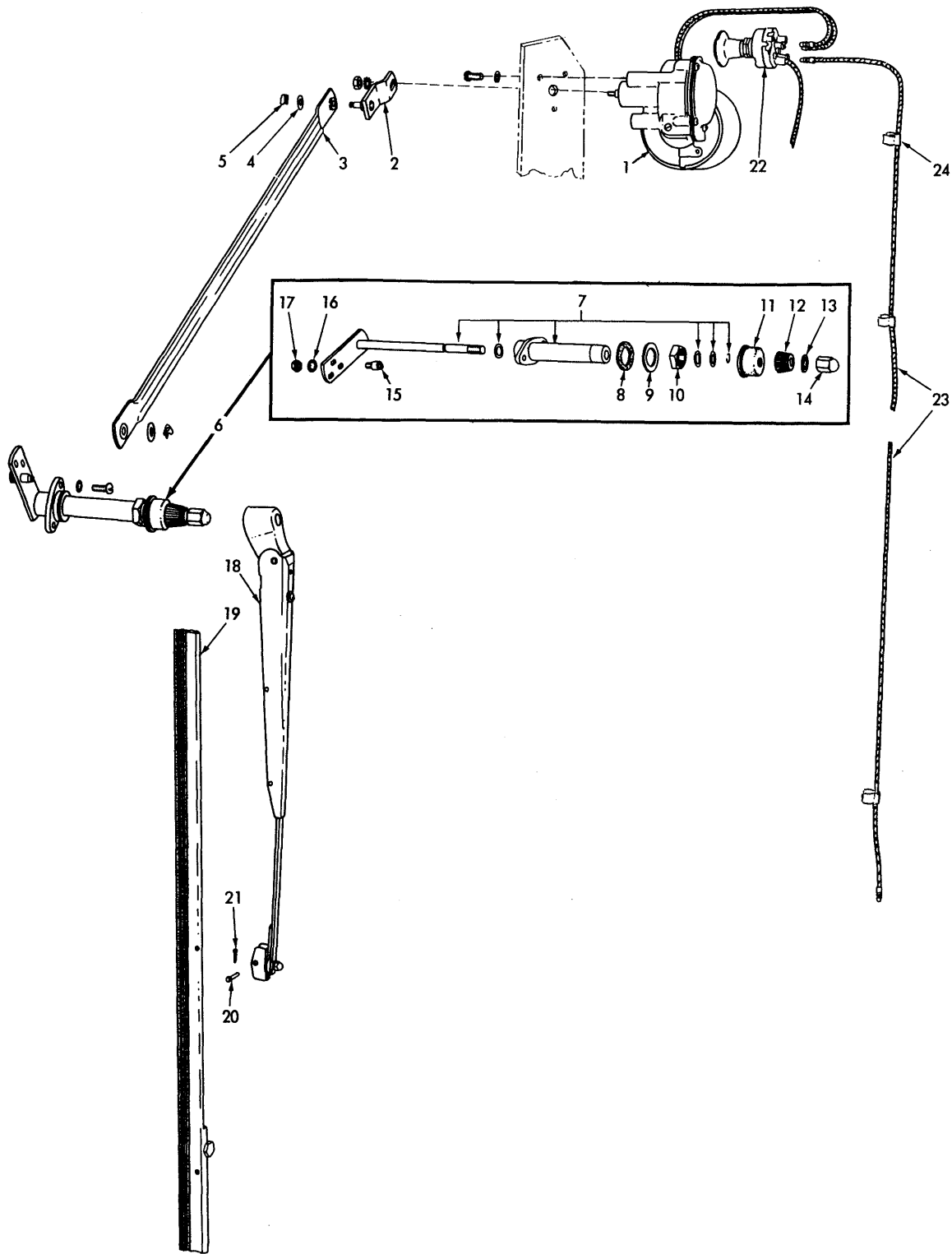
C A B (Continued)

ITEM	PART NO.	QTY.		DESCRIPTION	
		*	**		
43	70642461	1	-	SEAL, rear windshield glass (Used prior to March 15, 1968)	
	70663246	1	1	SEAL, rear windshield glass (Effective March 15, 1968)	
44	70642491	1	-	STRIP, expanding, rear windshield glass seal (Used prior to March 15, 1968)	
	70663233	1	1	STRIP, expanding, rear windshield glass seal (Effective March 15, 1968)	
45	70091402	2	2	ARM, rear windshield adjustment	
	70915018	2	2	NUT, wing, 1/2"NC	
	70906759	2	2	SCREW, drive, #4 x 1/4"	
46	70089900	2	2	CAPSCREW, rear windshield adjustment arm	
	70911043	4	4	NUT, 1/2"NF	
	70910244	4	4	WASHER, plain, SAE std., 1/2"	
	70904208	2	2	LOCKWASHER, 1/2"	
47	70091406	2	2	SPACER, rear windshield adjustment arm	
48	70621441	2	2	LATCH ASSEMBLY, windshield, left (Serviced only as a unit)	
	70621442	2	2	LATCH ASSEMBLY, windshield, right (Serviced only as a unit)	
	70914793	20	20	SCREW, fl-hd., 1/4"NC x 3/4"	
	70911114	16	16	WASHER, plain, SAE std., 1/4"	
	70904204	16	16	LOCKWASHER, 1/4"	
	70911024	16	16	NUT, 1/4"NC	
	70912300	4	4	LOCKWASHER, ctsk., ext-tooth, 1/4"	
49	70642155	1	-	DOOR, left } Cabs prior to #29151	
	70642156	1	-		} Stripped of all removable parts
	70644987	1	1	DOOR, left } Cabs #29151 and up	
	70644988	1	1		
50	70642528	2	2	SEAL, door	
51	70642081	2	2	GLASS, door, upper	
52	70642459	2	2	SEAL, door, upper glass	
53	70642489	2	2	STRIP, expanding, door upper glass seal	
54	70642082	2	-	GLASS, door, lower (17-1/2" high)(Cabs prior to #29151)	
	70644979	2	2	GLASS, door, lower (22-1/2" high)(Cabs #29151 and up)	
55	70642458	2	-	SEAL, door, lower glass (77-3/4" long)(Cabs prior to #29151)	
	70644994	2	2	SEAL, door, lower glass (87-3/4" long)(Cabs #29151 and up)	
56	70642488	2	-	STRIP, expanding, door lower glass seal (77-3/4" long)(Cabs prior to #29151)	
	70644993	2	2	STRIP, expanding, door lower glass seal (87-3/4" long)(Cabs #29151 and up)	
57	70642560	1	1	LOCK, right door	
	70642559	1	1	LOCK, left door	
58	70916532	8	8	SCREW, machine, 1/4"NC x 3/4"	
	70904204	8	8	LOCKWASHER, 1/4"	
	70644629	2	2	HANDLE, door, outside	
	70900558	4	4	SCREW, machine, #10-32 x 1/2"	
	70916158	4	4	LOCKWASHER, external tooth, #12.	



USAGE: Special equipment

ITEM	PART NO.	QTY.	DESCRIPTION
1	70665629	1	MOTOR, windshield wiper ("American Bosch" Model WWF-24C19-220. Order service parts from nearest arthorized service agency)
	70901174	1	SCREW, machine, #10-24NC x 3/4"
	70910243	1	WASHER, plain, SAE std., 3/16"
	70901310	1	NUT, #10-24NC
	70916271	1	CAPSCREW, 3/8"NC x 1"
	70911115	1	WASHER, plain, SAE std., 3/8"
	70911026	1	NUT, 3/8"NC
2	70662195	1	PLATE, spacing, wiper motor
3	70665630	1	ARM ASSEMBLY (Includes attaching hardware for wiping blade)
4	70628523	1	BLADE, wiping (20" long)
5	70650977	1	CABLE, motor grounding (10" long)
	70911114	1	WASHER, plain, SAE std., 1/4"
6	70629159	1	CABLE, motor to terminal block (120" long)
7	70638986	7	CLIP, supporting, switch cable (spring-type)



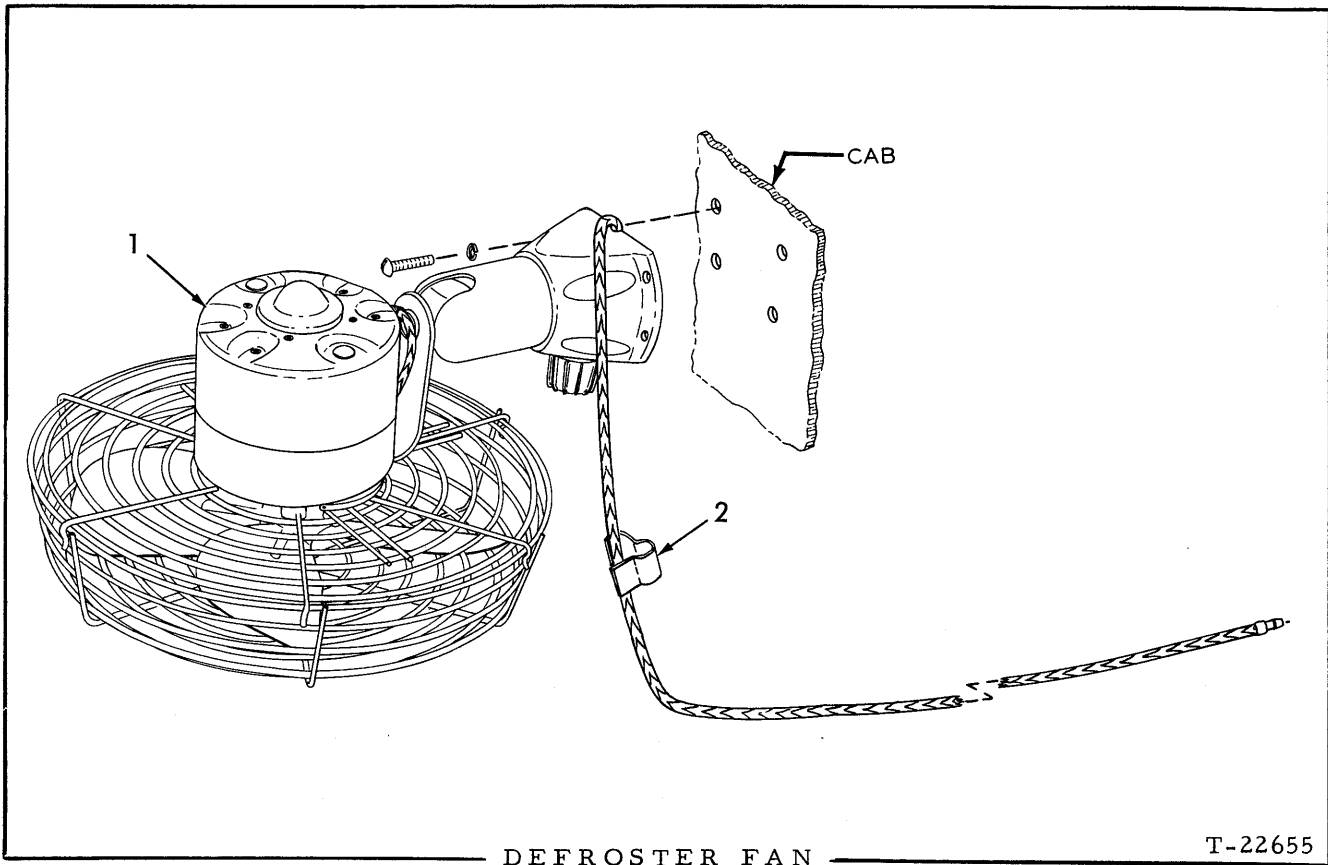
FRONT WINDSHIELD WIPER

T-39338

FRONT WINDSHIELD WIPER

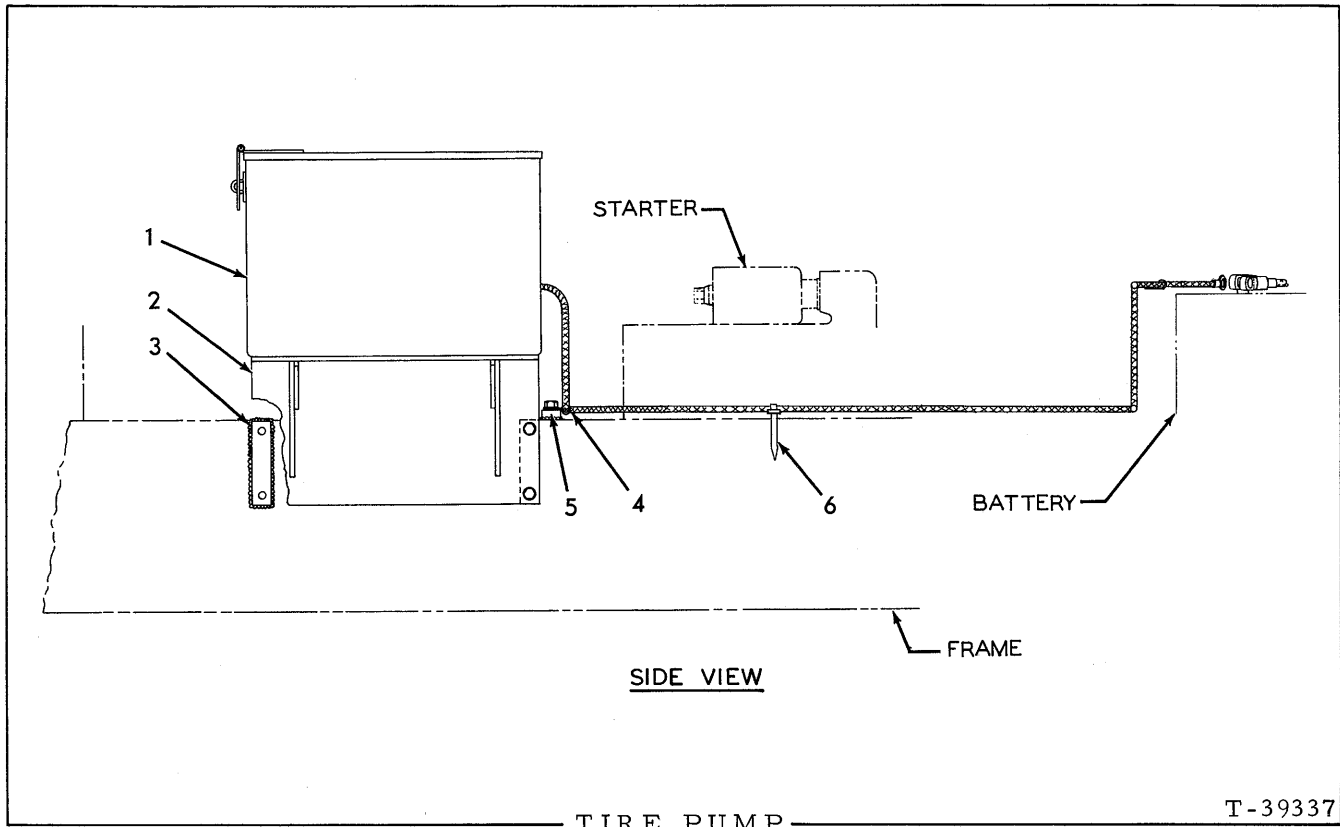
USAGE: Special Equipment.

ITEM	PART NO.	QTY.	DESCRIPTION
1	70638985	1	MOTOR, windshield wiper ("American Bosch" Model WWC-24-J-624. Order service parts from nearest authorized service agency) (Used prior to May 1967)
	70659478	1	MOTOR, windshield wiper("American Bosch" Model WWC-24-K-668. Order service parts from nearest authorized service agency) (Effective May 1967)
	70914108	3	SCREW, machine, rd-hd., 1/4"NF x 5/8"
	70914105	3	LOCKWASHER, ext-tooth, 1/4"
2	70639071	1	ARM ASSEMBLY, drive (Includes stud)
3	70639072	1	LINK, drive connecting
4	70639073	2	WASHER
5	70639074	2	CLIP, spring, link retaining
6	70639075	1	SHAFT AND PIVOT ASSEMBLY (Consists of items 7 thru 17)
	70901172	2	SCREW, machine, rd-hd., #10-24NC x 1/2"
	70909055	2	LOCKWASHER, internal-teeth, #10
<u>NOTE:</u> Service replacements of items indicated by asterisk (*) must be procured thru local "American Bosch"Service stations. Vendor's part numbers are indicated			
7	SH721048A-4	1	* SHAFT AND SPACER ASSEMBLY
8	WA721017-2	1	* WASHER, sealing (leather)
9	WA721017-1	1	* WASHER (steel)
10	NT721010	1	* NUT, retaining, shaft and spacer assembly
11	GP721003	1	* CAP, protecting (rubber)
12	NT721003	1	* NUT, arm adapting
13	WA22-10CA	1	* LOCKWASHER, arm retaining nut
14	NT721001	1	* NUT, arm retaining
15	PN721004	1	* PIN, drive connecting link
16	WA22-8CA	1	* LOCKWASHER, pin retaining nut
17	NT721009	1	* NUT, pin retaining
18	70628522	1	ARM ASSEMBLY, wiping blade (Includes items 20 and 21)
19	70628523	1	BLADE, wiping (20" long)
20	62582	1	PIN, clevis, blade attaching (Procure from local ANCO dealer. Vendor's number is listed)
21	61910	1	PIN, cotter (Procure from local ANCO dealer. Vendor's number is listed)
22	70628508	1	SWITCH ASSEMBLY (Includes mounting nuts)
23	70639067	1	CABLE (60" long)
24	70638986	3	CLIP, cable supporting



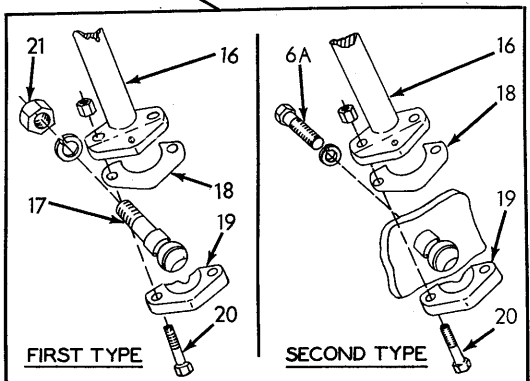
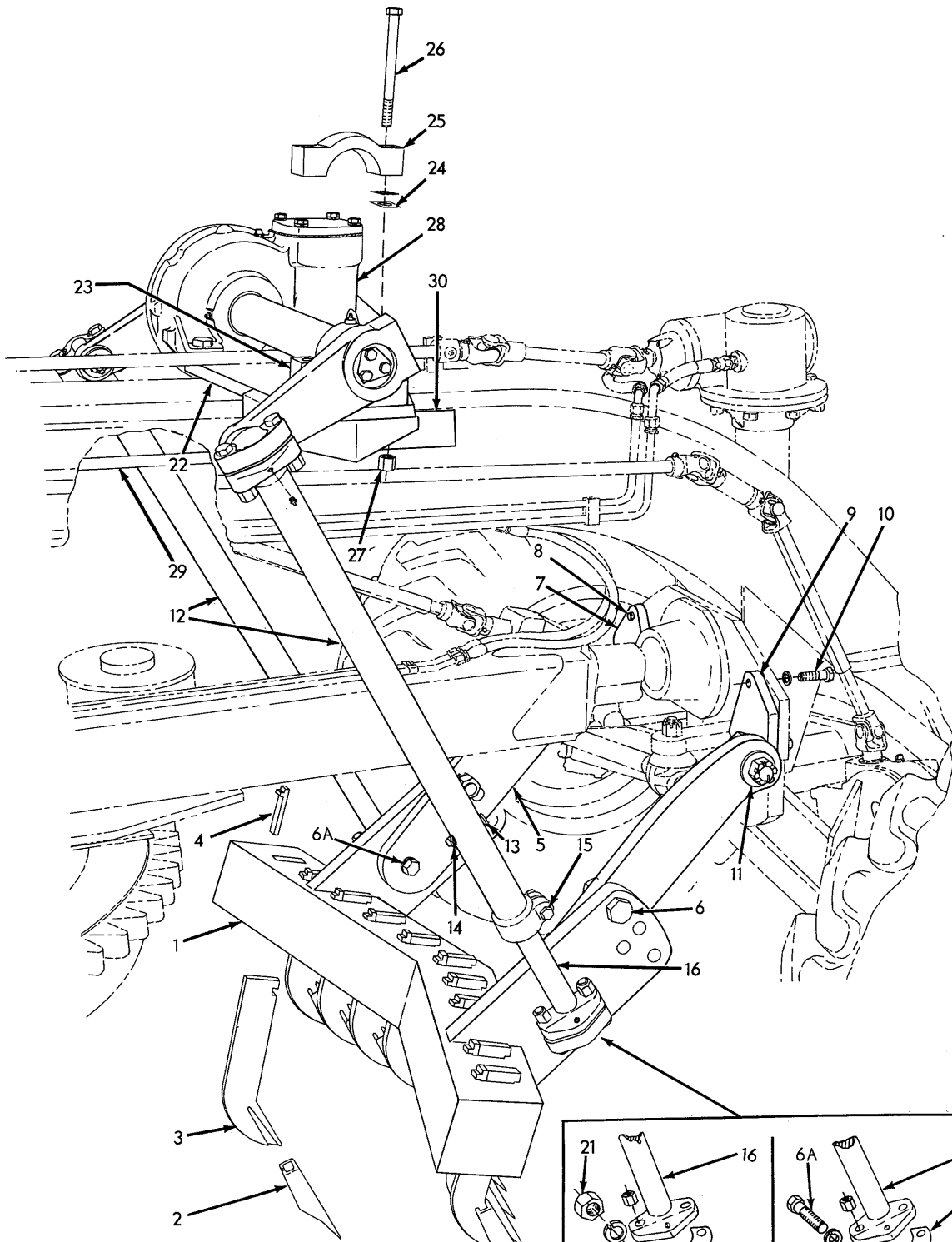
USAGE: Special equipment. For use with Cab installation.

ITEM	PART NO.	QTY.	DESCRIPTION	
1	70089283	1	FAN ASSEMBLY (Includes motor, guard, pedestal, switch and wiring)(Model No. 96-24A. Order service parts from Perfection Division of Hupp Corporation, 1135 Ivanhoe Road , Cleveland 10, Ohio.	
	70900555	4	SCREW, machine, rd-hd., #8-32NC x 3/4" } For mounting	
	70906964	4		LOCKWASHER, #8
	70900553	1	SCREW, machine, rd-hd., #8-32NC x 1/2" } For ground cable	
	70906964	1		LOCKWASHER, #8
	70907154	1		NUT, #8-32NC
2	70638986	3	CLIP, spring, fan cable	



USAGE: Special Equipment

ITEM	PART NO.	QTY.	DESCRIPTION
1	70076599	1	PUMP ASSY., tire (Model 127-12 volt. Order service parts from Johnson Service Co., 507 East Michigan, Milwaukee 2, Wisconsin)
2	70627446	1	BRACKET, pump supporting
	70915408	4	CAPSCREW, 3/8"NC x 3/4"
	70904206	4	LOCKWASHER, 3/8"
3	70077362	2	BLOCK, tapped (Requires welding to frame)
4	70640676	3	CLIP, cable supporting
	70916270	1	CAPSCREW, 3/8"NC x 1/2"
	70911115	1	WASHER, plain, SAE std., 3/8"
5	70647418	1	NUT, cable supporting clip (Requires welding to frame)
6	70239726	1	TIE, cable supporting



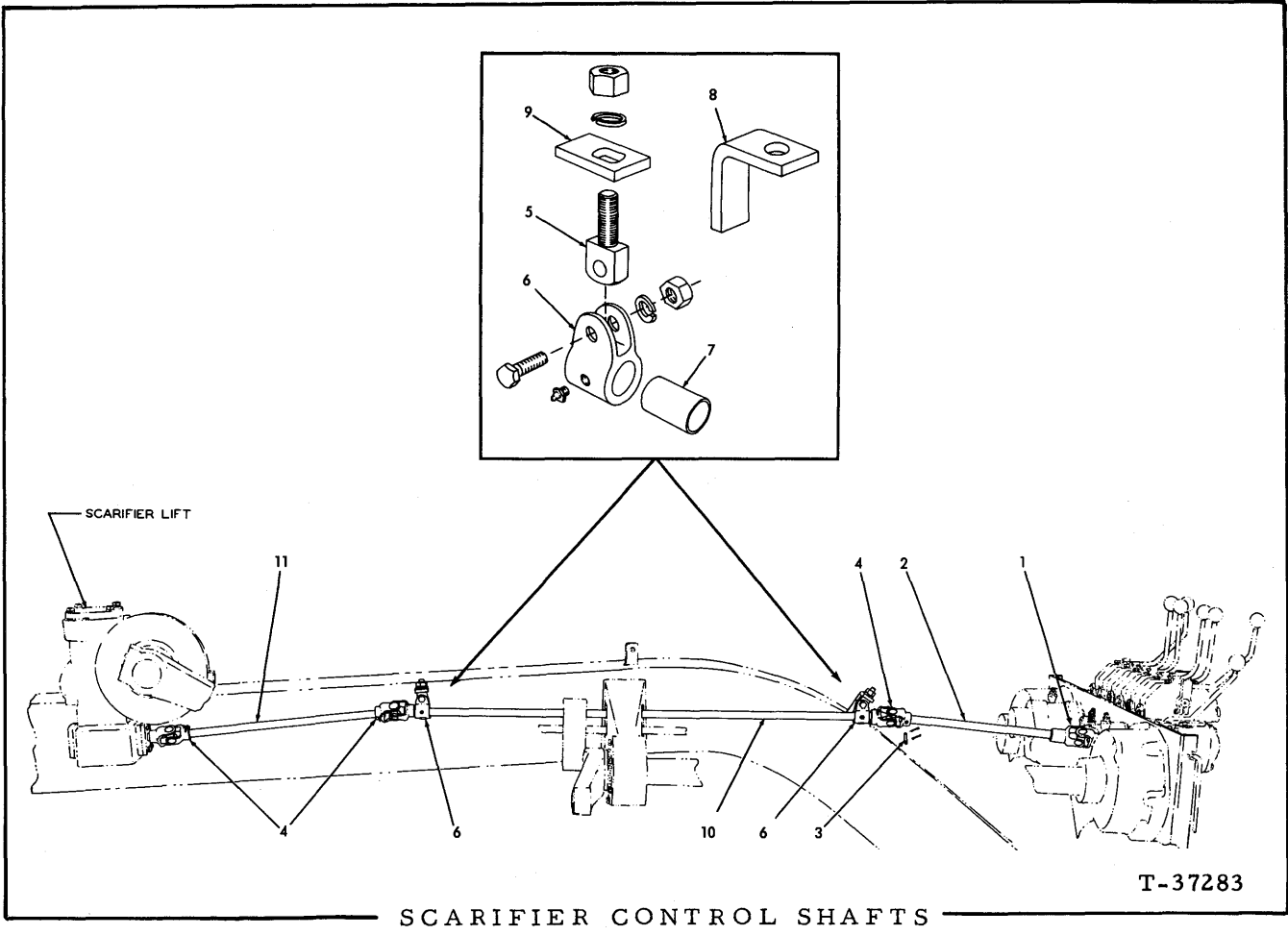
SCARIFIER

T-37251

SCARIFIER

USAGE: Special equipment

ITEM	PART NO.	QTY.	DESCRIPTION
1	70641531	1	FRAME (Includes item 17)
2	70062160	11	TOOTH, scarifier
3	70062159	11	SHANK, scarifier tooth
4	70602522	11	KEY, shank retaining
5	70633009	2	BAR, frame adjustment (Used prior to September 1963)
	70642926	2	BAR, frame adjustment (Effective September 1963)
6	70053251	2	CAPSCREW, 1-1/4"NF x 4-1/2" (Used prior to September 1963)
	70052361	2	CAPSCREW, 1-1/4"NF x 4" (Effective September 1963)
	70904210	2	LOCKWASHER, 1-1/4"
	70913097	2	NUT, 1-1/4"NF
6A	70052361	2	CAPSCREW, 1-1/4"NF x 4" } Effective September 1963
	70904210	2	
7	70647737	1	BRACKET, frame pivot, left
	70912841	1	NUT, slotted, 1-1/4"NF
	70904381	1	PIN, cotter, 3/16" x 2-1/4"
	70013465	4	CAPSCREW, 3/4"NF x 2-1/2"
8	70904369	4	LOCKWASHER, 3/4"
9	70647738	1	BRACKET, frame pivot, right
	70912841	1	NUT, slotted, 1-1/4"NF
	70904381	1	PIN, cotter, 3/16" x 2-1/4"
	70013465	4	CAPSCREW, 3/4"NF x 2-1/2"
10	70904369	4	LOCKWASHER, 3/4"
11	70054889	2	WASHER, pivot bracket
12	70621269	2	LINK, scarifier lift
	70914465	2	FITTING, lubricating, straight, 1/8"NPT
13	70620919	2	PIN, coupling, lift link and rod
14	70617855	2	CLIP, pin retaining
15	70070285	2	CAPSCREW, lift link clamping (3/4"NF x 3")
	70012767	2	NUT, high, 3/4"NF
16	70099987	2	ROD, lift link
	70914465	2	FITTING, lubricating, straight, 1/8"NPT
17	70633004	2	PIN, ball, scarifier lift (Used prior to September 1963)
	70913077	2	LOCKWASHER, 1-1/2"
	70916555	2	NUT, 1-1/2"NF
18	70620920	16	SHIM, lift link and rod cap (Use as required)
19	70620479	4	CAP, lift link and rod
20	70035422	8	CAPSCREW, 3/4"NF x 4"
21	70012767	8	NUT, high, 3/4"NF
22	70624830	1	PLATE, supporting, scarifier lift (For graders prior to #1001) } Require welding to grader frame
	70639007	1	



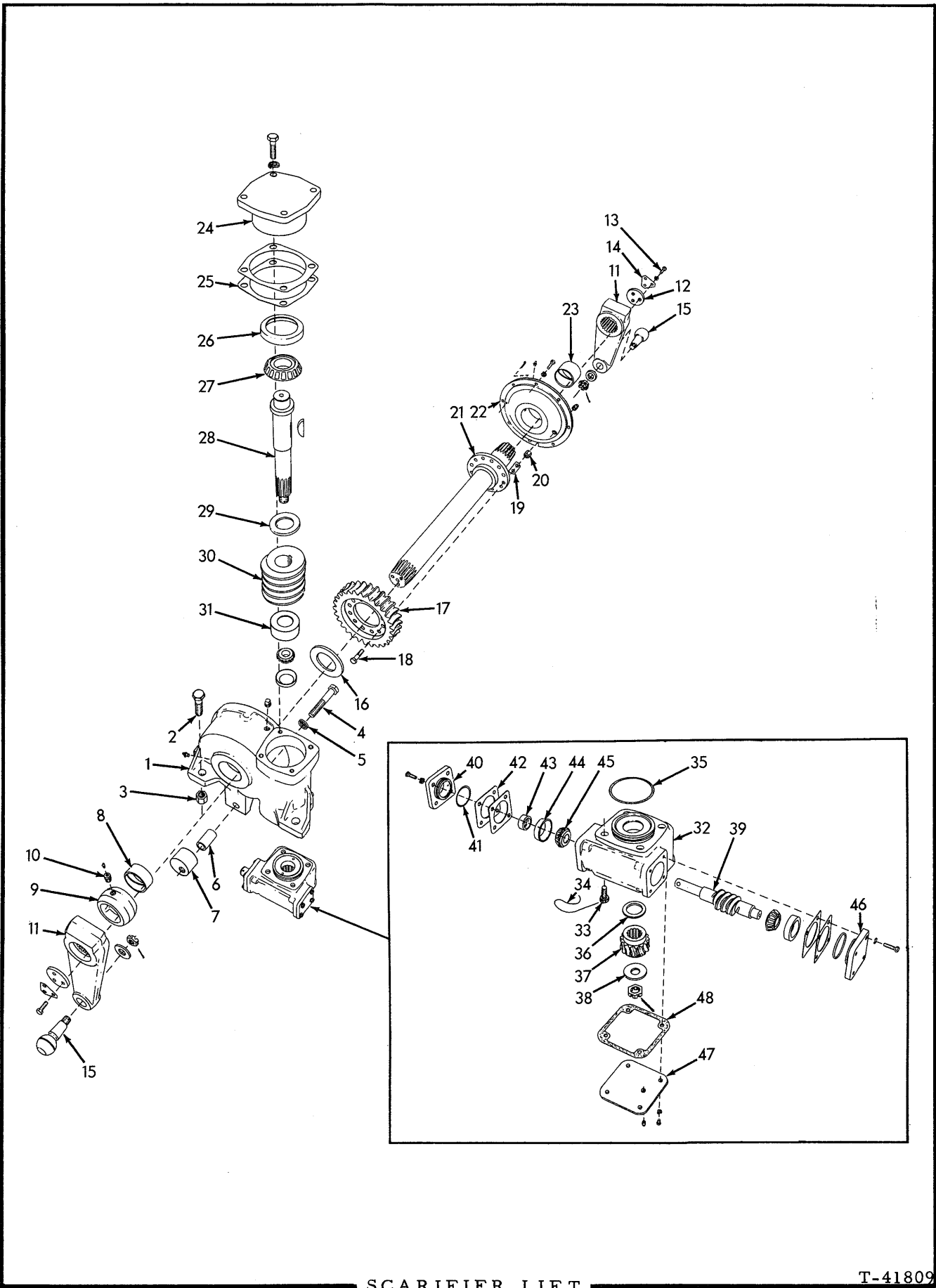
SCARIFIER (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
23	70627236	1	SOCKET, worm gear shaft bearing
24	70061179	20	SHIM, adjusting (.012" thick. Use as required)
	70061180	12	SHIM, adjusting (.028" thick. Use as required)
25	70601717	1	CAP, worm gear shaft bearing
26	70622828	2	CAPSCREW, 3/4"NF x 8"
27	70012767	2	NUT, high, 3/4"NF
28	-----	-	LIFT ASSEMBLY (See page 285)
29	-----	-	CONTROL SHAFTS (See page 283)
30	-----	-	TRANSFER (See INSTRUCTION PLATES AND TRANSFERS)

SCARIFIER CONTROL SHAFTS

USAGE: Special equipment

1	70053123	1	JOINT ASSEMBLY, universal (See page 232 for parts)(Graders prior to #1017. Order 70645159)
	70645159	1	JOINT ASSEMBLY, universal (See page 233 for parts)(Effective with grader #1017)
	70911273	1	KEY, #127 woodruff, 1/4" x 2-1/8"
	70911159	1	WASHER, plain, SAE std., 1"
2	70621270	1	SHAFT, rear (22-1/2" long)
3	70601935	7	PIN, universal joint (3/8" x 2")
	70900805	14	PIN, cotter, 1/8" x 3/4"
4	70053121	3	JOINT ASSEMBLY, universal (See page 232 for parts)(Graders prior to #795. Order 70645181)
	70645181	3	JOINT ASSEMBLY, universal (See page 233 for parts)(Effective with grader #795)
5	70602328	2	BOLT, eye, control shaft bearing
	70904209	2	LOCKWASHER, 5/8"
	70911029	2	NUT, 5/8"NC
6	70624761	2	BEARING ASSEMBLY, control shaft (Includes item 7)
	70914465	2	FITTING, lubricating, straight, 1/8"NPT
	70904541	2	CAPSCREW, 1/2"NC x 1-3/4"
	70904208	2	LOCKWASHER, 1/2"
	70911028	2	NUT, 1/2"NC
7	70622062	2	BUSHING, control shaft bearing
8	70624827	1	ANGLE, bearing support (Requires welding to grader frame)
9	70096620	1	BLOCK, bearing support (Requires welding to grader frame)
10	70620899	1	SHAFT, scarifier control, center (59-1/4" long)
11	70622164	1	SHAFT, scarifier control, front (25-3/16" long)(Grader prior to #1001)
	70646047	1	SHAFT, scarifier control, front (29-3/16" long)(Graders #1001 and up)



SCARIFIER LIFT

T-41809

SCARIFIER LIFT

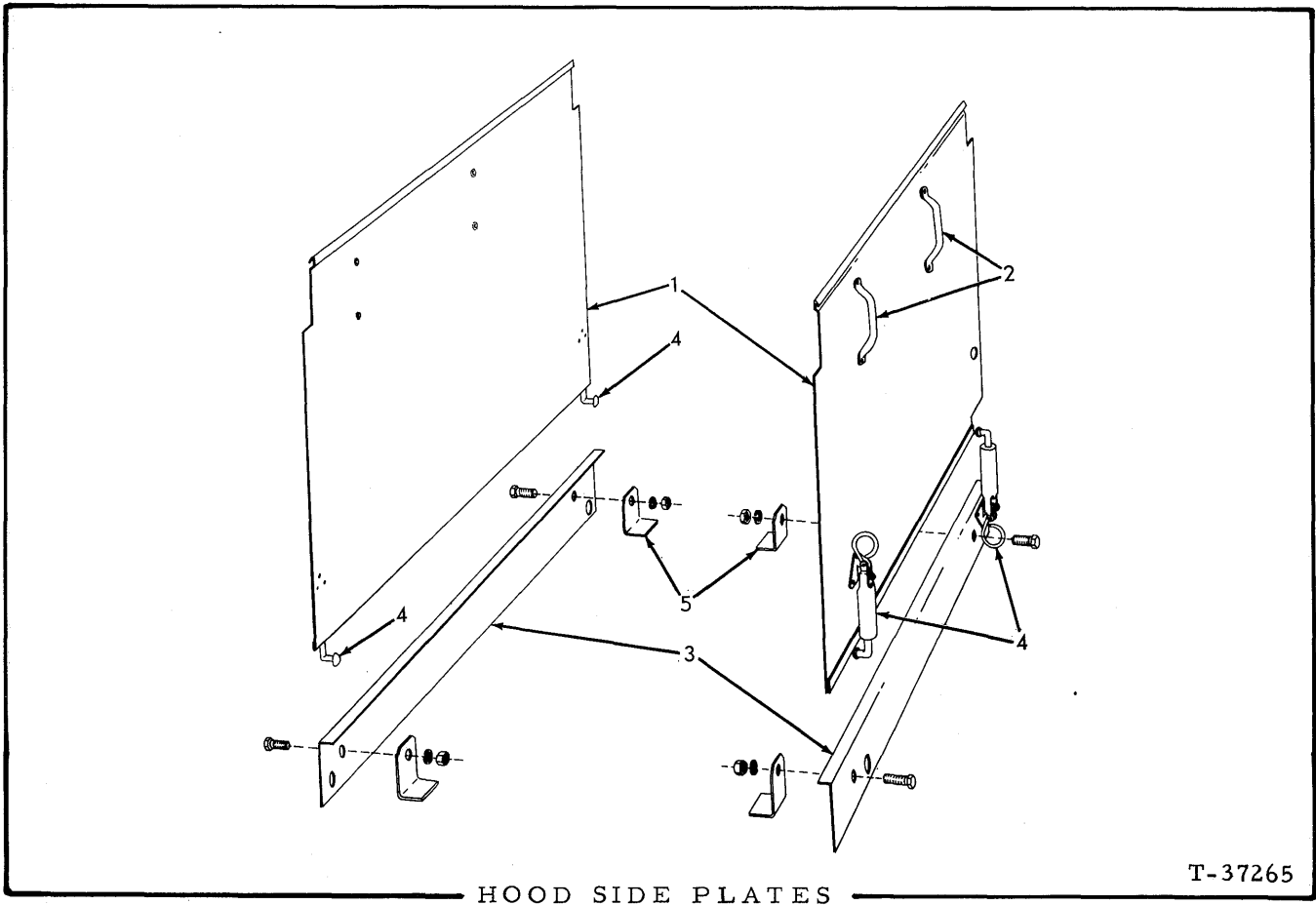
USAGE: Special equipment

ITEM	PART NO.	QTY.	DESCRIPTION	
1	70627238	1	HOUSING ASSEMBLY, worm gear (Includes item 8)	
	70912725	1	PLUG, pipe, 1/2"NPT (Oil filler)	
	70914465	1	FITTING, lubricating, straight, 1/8"NPT	
2	70031055	2	CAPSCREW, 1"NF x 3-3/4"	
3	70600236	2	NUT, high, 1"NF	
4	70077196	1	CAPSCREW, worm gear housing anchor (1"NF x 5-3/4")	
5	70083318	1	WASHER, plain, housing anchor screw	
6	70631658	1	SPACER, housing anchor screw	
7	70631661	1	BLOCK, tapped, anchor screw (1-3/4" long) (For graders prior to #1001)	} Require welding to grader frame
	70639006	1	BLOCK, tapped, anchor screw (2-1/8" long) (For graders #1001 and up)	
8	70627237	1	BUSHING, housing	
9	70605328	1	BEARING, worm gear shaft, right	
10	70605307	1	NIPPLE, lubricating (Also serves as bearing anchor)	
	70914465	1	FITTING, lubricating, straight, 1/8"NPT	
11	70621252	2	CRANK, scarifier lift	
12	70099154	2	WASHER, crank retaining	
13	70070469	6	CAPSCREW, 1/2"NF x 1-1/4"	
14	70099155	2	LOCK, capscrew	
15	70620794	2	PIN, ball, lift crank	
	70900822	2	WASHER, plain, U. S. std., 1"	
	70911174	2	NUT, jam, slotted, 1"NF	
	70900808	2	PIN, cotter, 1/8" x 1-1/2"	
16	70085549	1	WASHER, thrust	
17	70094913	1	GEAR, worm	
18	70095314	12	CAPSCREW, 5/8"NF x 2-1/4"	
19	70085551	6	LOCK, nut	
20	70072366	12	NUT, high, 5/8"NF	
21	70621253	1	SHAFT, worm gear	
22	70080780	1	COVER ASSEMBLY, worm gear housing (Includes item 23 and cotter PIN indented below)	
	70914465	1	FITTING, lubricating, straight, 1/8"NPT	
	70900806	1	PIN, cotter, 1/8" x 1"	
	70903639	8	CAPSCREW, 1/2"NC x 1-1/2"	
	70904208	8	LOCKWASHER, 1/2"	
	70912725	1	PLUG, pipe, 1/2"NPT (oil level check)	
23	70085545	1	BUSHING, worm gear housing cover	
24	70092024	1	CAP, worm shaft bearing	
	70903793	4	CAPSCREW, 5/8"NC x 2"	
	70904209	4	LOCKWASHER, 5/8"	

(Continued)

SCARIFIER LIFT (Continued)

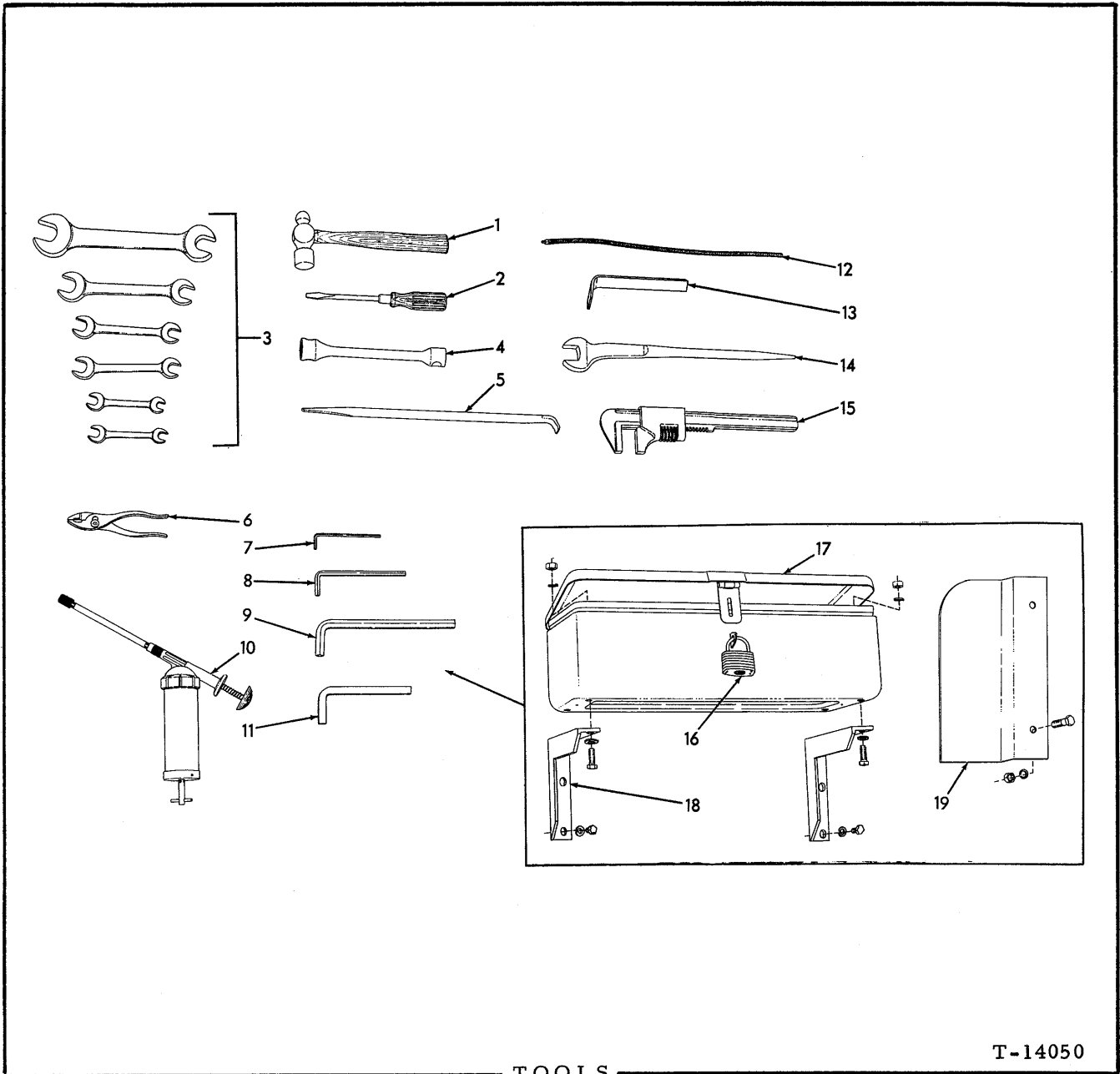
ITEM	PART NO.	QTY.	DESCRIPTION
25	70075603	6	SHIM, bearing adjusting (.002" thick. Use as required)
	70075602	6	SHIM, bearing adjusting (.010" thick. Use as required)
26	70075143	2	CUP, worm shaft bearing
27	70075142	2	CONE ASSEMBLY, worm shaft bearing
28	70634199	1	SHAFT, worm
	70912624	1	NUT, jam, slotted, 1-1/8"NF
	70900813	1	PIN, cotter, 3/16" x 2"
29	70634045	1	WASHER, thrust, worm
30	70634043	1	WORM
	70911238	1	KEY, #U woodruff, 7/16" x 2-3/4"
31	70634044	1	SPACER, worm shaft bearing
32	70627356	1	HOUSING, input worm
33	70023619	4	CAPSCREW, drilled-hd., 5/8"NC x 1-1/2"
34	70023633	2	WIRE, locking, 1/16" x 12"
35	70923588	1	O-RING, input worm housing
36	70080684	1	WASHER, thrust, input worm gear
37	70078033	1	GEAR, input worm
38	70080685	1	WASHER, retaining, input worm gear
39	70081972	1	WORM, input
40	70092026	1	CAP, input worm rear bearing
	70910211	4	CAPSCREW, 3/8"NC x 1-1/8"
	70904206	4	LOCKWASHER, 3/8"
41	70923809	2	O-RING, bearing cap
42	70075134	2	SHIM, bearing adjusting (.003" thick. Use as required)
	70075135	6	SHIM, bearing adjusting (.010" thick. Use as required)
43	70057848	1	SEAL, oil, input worm
44	70604383	2	CUP, input worm bearing
45	70604382	2	CONE ASSEMBLY, input worm bearing
46	70092025	1	CAP, input worm front bearing
	70910211	4	CAPSCREW, 3/8"NC x 1-1/8"
	70904206	4	LOCKWASHER, 3/8"
47	70622219	1	COVER, input worm housing
	70901652	1	PLUG, pipe, 1/8"NPT (oil drain)
	70903629	4	CAPSCREW, 3/8"NC x 3/4"
	70904206	4	LOCKWASHER, 3/8"
48	70080683	1	GASKET, input worm housing cover



USAGE: Special Equipment

ITEM PART NO. QTY. DESCRIPTION

1	70628170	1	PLATE ASSEMBLY, left side (Includes item 2 and 4)
	70628172	1	PLATE ASSEMBLY, right side (Includes items 2 and 4)
2	70032834	4	HANDLE, lifting
	70900764	8	RIVET, fl-hd., 3/16" x 1/2"
3	70628165	1	PLATE, fastening, left
	70628168	1	PLATE ASSEMBLY, fastening, right (Includes item 4)
	70903775	4	CAPSCREW, 3/8"NC x 7/8"
	70904206	4	LOCKWASHER, 3/8"
	70911026	4	NUT, 3/8"NC
4	70033060	4	FASTENER, hold-down
	70914007	12	RIVET, fl-hd., 3/16" x 5/8"
5	70628063	4	ANGLE, fastening plate attaching (Requires welding to grader frame)

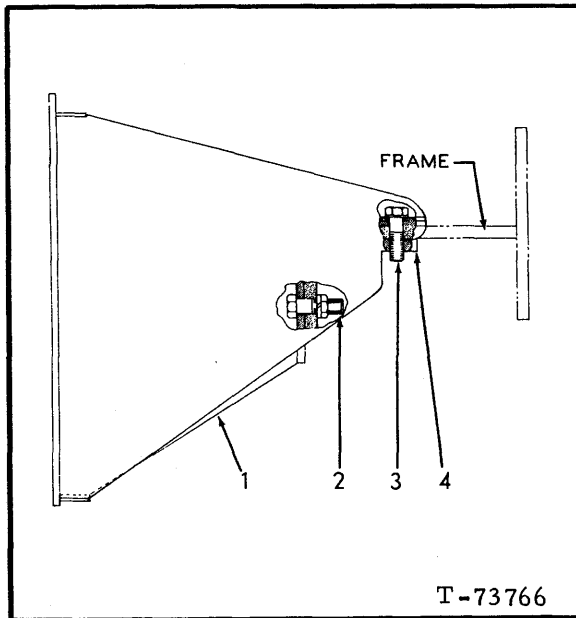


ITEM	PART NO.	QTY.	DESCRIPTION
NOTE: For other recommended service tools, see Service Tool Manual Form 70650850			
-	70633817	1	TOOL SET (Consists of items 1 thru 15)
1	70012387	1	HAMMER, ball peen, 1 lb.
2	70036268	1	SCREWDRIVER, 9-3/4" long
3	70012377	1	WRENCH KIT (6 WRENCHES 7/16" to 1-1/4" in a cloth case)
4	70603723	1	WRENCH, socket, tire rim nut
5	70605206	1	TOOL, tire
6	70012389	1	PLIERS, slip joint, 6"

(Continued)

TOOLS (Continued)

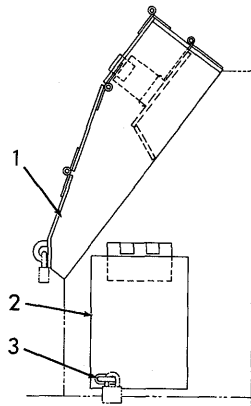
ITEM	PART NO.	QTY.	DESCRIPTION
7	70912785	1	KEY, socket screw, hexagonal, long, 3/16"
8	70912787	1	KEY, socket screw, hexagonal, long, 5/16"
9	70912485	1	KEY, socket screw, hexagonal, long, 9/16" (Circle turn adjustment)
10	70073735	1	GUN, grease (Serviced only as a unit)
11	70043769	1	WRENCH, drain and filling plugs (90°, 1/2" square)
12	70605230	1	HOSE, bleeding, hydraulic brakes
13	70633813	1	TOOL, adjusting, parking brake
14	70912554	1	WRENCH, structural, offset, 1-7/64" opening
15	70912486	1	WRENCH, automotive, adjustable, 15"
16	70912484	1	PADLOCK, tool box
17	70604943	1	BOX, tool
	70903630	4	CAPSCREW, 3/8"NC x 1"
	70911115	4	WASHER, plain, SAE std., 3/8"
	70904206	4	LOCKWASHER, 3/8"
	70911026	4	NUT, 3/8"NC
18	70633814	2	BRACKET, supporting
	70903629	4	CAPSCREW, 3/8"NC x 3/4"
	70904206	4	LOCKWASHER, 3/8"
19	70657758	1	PLATE, stop, tool box lid (attaches to radiator grill)
	70903630	2	CAPSCREW, 3/8"NC x 1"
	70904206	2	LOCKWASHER, 3/8"
	70911026	2	NUT, 3/8"NC



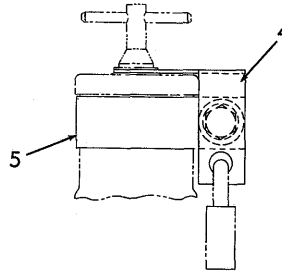
FRONT PUSH BLOCK

USAGE: Special equipment

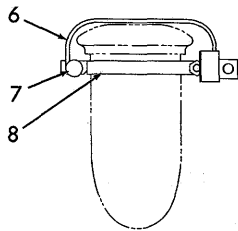
ITEM	PART NO.	QTY.	DESCRIPTION
-	70650723	1	PUSH BLOCK ASSY. (Includes item 1 thru 4)
1	-----	1	PLATE, push (Not (Not serviced separately)
2	70920670	2	CAPSCREW, 1-1/4"NF x 4"
	70904210	2	LOCKWASHER, 1-1/4"
	70913097	2	NUT, 1-1/4"NF
3	70031914	2	CAPSCREW, 1"NC x 3-1/2"
	70910916	2	LOCKWASHER, 1"
4	-----	2	PLATE, tapped (Not serviced separately)



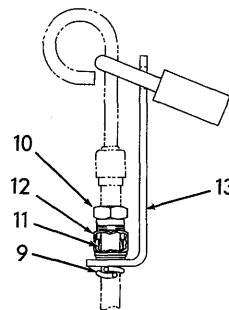
INSTRUMENT PANEL



ENGINE OIL FILLER CLOSURE
(ENGINE S/N 10-10769 AND UP ONLY)



FUEL TANK



ENGINE OIL LEVEL GAUGE

VANDALISM PREVENTION PARTS

T-76753

USAGE: Special equipment

ITEM PART NO. QTY. DESCRIPTION

NOTE: Padlocks are required to complete the various installations

1	70659224	1	GUARD, main instrument panel	} Requires welding to install
2	70669628	1	COVER, hour meter	
3	70659236	1	STAPLE, cover locking	
4	70660074	1	COLLAR, engine oil filler pipe	
	70919224	1	CAPSCREW, 3/8"NC x 1-1/8"	
	70904206	1	LOCKWASHER, 3/8"	
	70044973	1	WASHER, plain	
5	70659721	1	BRACKET, engine oil filler closure	
6	70657358	1	COVER, fuel tank cap	
7	70924838	1	RIVET, fuel tank cap cover	

(Continued)

VANDALISM PREVENTION PARTS (Continued)

ITEM	PART NO.	QTY.	DESCRIPTION
8	70659259	1	CLAMP, fuel tank filler neck
	70916285	1	CAPSCREW, 1/4"NC x 1"
	70904204	1	LOCKWASHER, 1/4"
	70911024	1	NUT, 1/4"NC
9	74254980	1	CLAMP, supporting, locking angle
10	70650178	1	NUT, locking, engine oil level gauge (upper)
11	70925164	1	FERRULE, locking nut
12	70925162	1	NUT, locking, engine oil level gauge (lower)
13	70659175	1	ANGLE, locking, engine oil level gauge

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