

# **MICHIGAN**

## **PARTS MANUAL**

**No. 3039**

# **MODEL 35AWS TRACTOR SHOVEL**

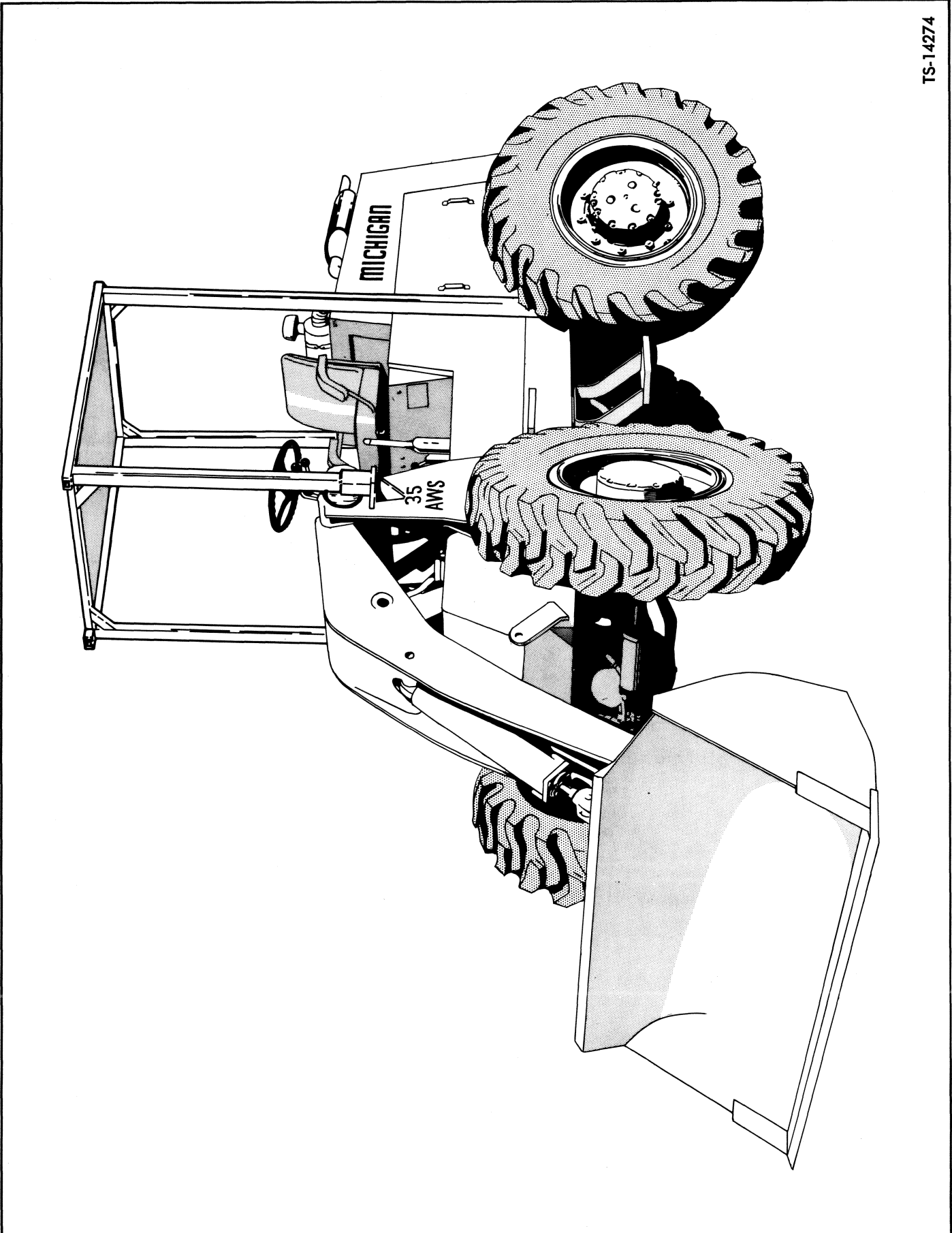
**Information Contained Herein Pertains to Machine Serial  
Numbers Listed Below:**

**PERKINS — 457A101CAC & After**

**Record Your Machine  
Serial Number Here**

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**CLARK EQUIPMENT COMPANY**



## WARRANTY

Clark Equipment Company (CLARK) has warranted to the Distributor (Seller) who, pursuant to agreement with CLARK, hereby, on its own behalf, warrants to the Buyer each new CLARK product to be free from defects in material and workmanship under normal use and maintenance as herein provided.

Distributor's sole obligation under this warranty shall be limited to repairing, replacing or allowing credit for, at Distributor's option, any part which under normal and proper use and maintenance proves defective in material or workmanship within six (6) months after delivery to or one thousand (1,000) hours of use by Buyer, whichever shall occur first; provided, however, that (i) the product is placed in use not later than one year after shipment from CLARK'S plant; (ii) that notice of any such defect and satisfactory proof thereof is promptly given by Buyer to Distributor, and (iii) such material shall have been returned to Distributor, with transportation charges prepaid and found by Distributor to have been defective.

This warranty does not apply in respect of damage to or defects in any product caused by overloading or other misuse, neglect or accident, nor does this warranty apply to any product which has been repaired or altered in any way which, in the sole judgment of Distributor, affects the performance, stability or general purpose for which it was manufactured.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES (EXCEPT OF TITLE), EXPRESSED OR IMPLIED, AND THERE ARE NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL DISTRIBUTOR BE LIABLE FOR CONSEQUENTIAL OR SPECIAL DAMAGES.

This warranty does not apply to parts or trade accessories not manufactured by CLARK, or attachments not manufactured or sold by CLARK. Buyer shall rely solely on the existing warranties, if any, of the respective manufacturers thereof.

## IMPROVEMENTS

It is CLARK'S policy to constantly strive to improve its products. The right therefore is reserved to make changes in design and improvements whenever it is believed the efficiency of the product will be improved thereby, but without incurring any obligation to incorporate such improvements in any product which has been shipped or is in service.

Revised May 1, 1966





**WHEN ORDERING REPAIR PARTS** To assure the best results and to maintain the original quality built into the machine it is important that only Clark-Approved Parts be used when new parts are required.

**IMPORTANT:** Always furnish the distributor with the machine serial number when ordering parts. Order through your nearest Clark Distributor for THE MICHIGAN LINE.

Always give serial number of machine.

Furnish: Quantity, Part Number and Description.

**WHEN PARTS ARE RECEIVED** Check immediately for quantity, correctness and condition. Claims for damages, during shipment, should be made to the carrier immediately.

**PARTS MANUAL ARRANGEMENT** The various parts groups involved in this equipment are arranged in this manual in alphabetical order. Each alphabetical parts group is page numbered separately with the page numbers prefixed by the alphabetical letter designated for that group, i.e., A1, A2, B1, B2, etc. Following the alphabetical and page number designation, and separated therefrom by a hyphen (-), is the page version number, i.e., A1-1, A1-2, etc. This designation indicates the revision numbers assigned to incorporate design changes in the equipment covered by that page.

Parts Groups "A" thru "Y" include all items furnished as standard equipment at date of this publication. All optional and accessory items are listed under Group Z in the rear of this manual.

**ABBREVIATIONS**

adjusting .....adj	engine .....eng	pressure .....press
assembly .....assy	hydraulic .....hyd	radiator .....rad
bearing .....brg	includes .....inc.	retainer .....ret
brake .....brk	inlet .....in	right hand .....R.H.
carrier .....crr	instrument .....inst	ring .....rg
cluster .....clsr	left hand .....L.H.	section .....sectn
connecting .....connctg	mounting .....mtg	steering .....strg
converter .....conv	outlet .....out	temperature .....temp
cylinder .....cyl	planetary .....planet	windshield .....wndsh
differential .....diff	power .....pwr	

**SYMBOLS**

- †NOT ILLUSTRATED
- §NOT SOLD SEPARATELY
- ‡AS REQUIRED

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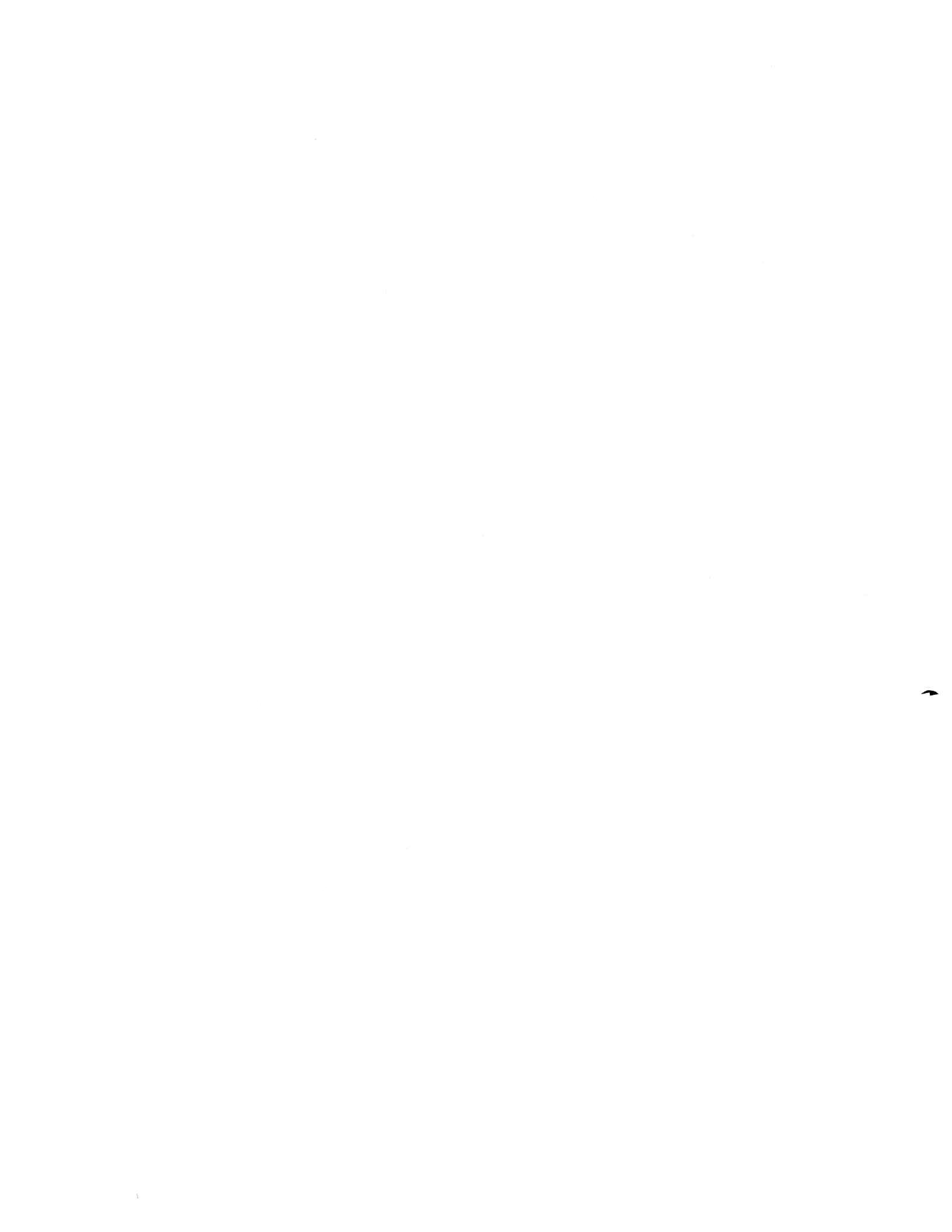
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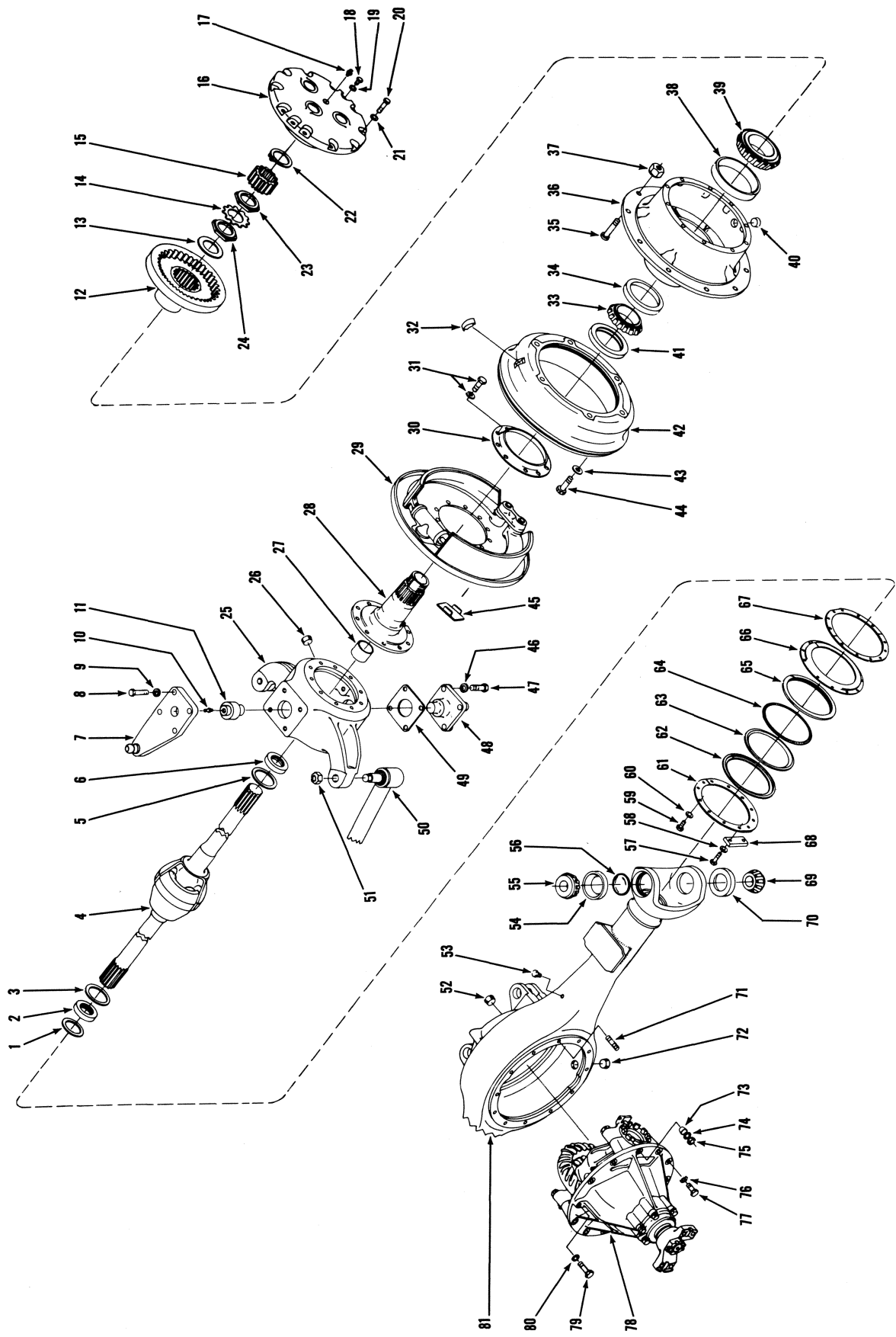
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# Axle Assembly, Front

No.	Part No.	Qty.	Description
A	<sup>1</sup> 190810	1	Axle assy
1	109658	2	Washer
2	109659	2	Seal
3	106129	2	Washer
4	119970	2	Axle shaft
5	106129	2	Washer
6	109659	2	Seal
7	-----	—	Omit
8	17C-828	8	Bolt
9	4E-08	8	Lockwasher
10	10H-25	2	Fitting grease
11	109668	2	Steering trunnion
12	114591	2	Gear
13	106572	2	Washer
14	102314	2	Lock
15	120190	2	Gear
15A	<sup>†</sup> 119983	2	Washer
16	<sup>7</sup> -----	2	Planet carrier assy
17	111805	2	Relief valve
18	-----	—	Omit
19	-----	—	Omit
20	100638	20	Bolt
21	112278	20	Washer
22	224104	2	Ring
23	102313	2	Nut
24	102313	2	Nut
25	114793	1	Spindle support RH
25A	<sup>†</sup> 114792	1	Spindle support LH
26	11F-12	2	Plug
27	109652	2	Bushing
28	<sup>2</sup> 110242	2	Spindle
29	<sup>7</sup> -----	2	Brake assy
30	117913	2	Oil slinger
31	106539	20	Bolt
31A	<sup>†</sup> 106762	20	Washer
32	100320	2	Clip
33	742257	2	Cone
34	742258	2	Cup
35	109640	20	Bolt
36	<sup>3</sup> 110240	2	Hub assy
37	109641	20	Nut
38	658990	2	Cup
39	658974	2	Cone
40	11F-12	2	Plug
41	111726	2	Seal

No.	Part No.	Qty.	Description
42	106815	2	Drum brake
43	104412	12	Washer
44	107256	12	Bolt
45	120198	8	Cover
46	4E-08	12	Lockwasher
47	17C-824	12	Bolt
48	109667	2	Steering trunnion
49	<sup>‡4</sup> 109771	—	Shim
49A	<sup>‡5</sup> 109772	—	Shim
49B	<sup>‡6</sup> 109773	—	Shim
50	<sup>7</sup> -----	1	Tie rod assy
51	112174	2	Nut
52	11F-12	1	Plug
53	106656	1	Breather
54	713660	2	Cup
55	713659	2	Cone
56	109670	2	Retainer
57	1C-620	4	Bolt
58	4E-06	20	Lockwasher
59	1C-612	20	Bolt
60	4E-06	20	Lockwasher
61	109666	4	Ring
62	109665	2	Retainer
63	109663	2	Dust seal
64	109664	2	Spring
65	109662	2	Seal
66	109660	2	Retainer
67	109661	2	Gasket
68	114092	2	Stop plate
69	713659	2	Cone
70	713660	2	Cup
71	120546	12	Stud
72	11F-12	1	Plug
73	103216	3	Dowel
74	112278	12	Washer
75	64D-07	12	Nut
76	-----	—	Omit
77	-----	—	Omit
78	<sup>7</sup> -----	1	Diff carrier assy
79	-----	—	Omit
80	-----	—	Omit
81	118380	1	Housing
82	<sup>†</sup> 117338	1	Brake tee
83	<sup>†</sup> 550325	2	Clip

<sup>1</sup>(DS-8000) Inc. 1→83

<sup>2</sup>Inc. 27

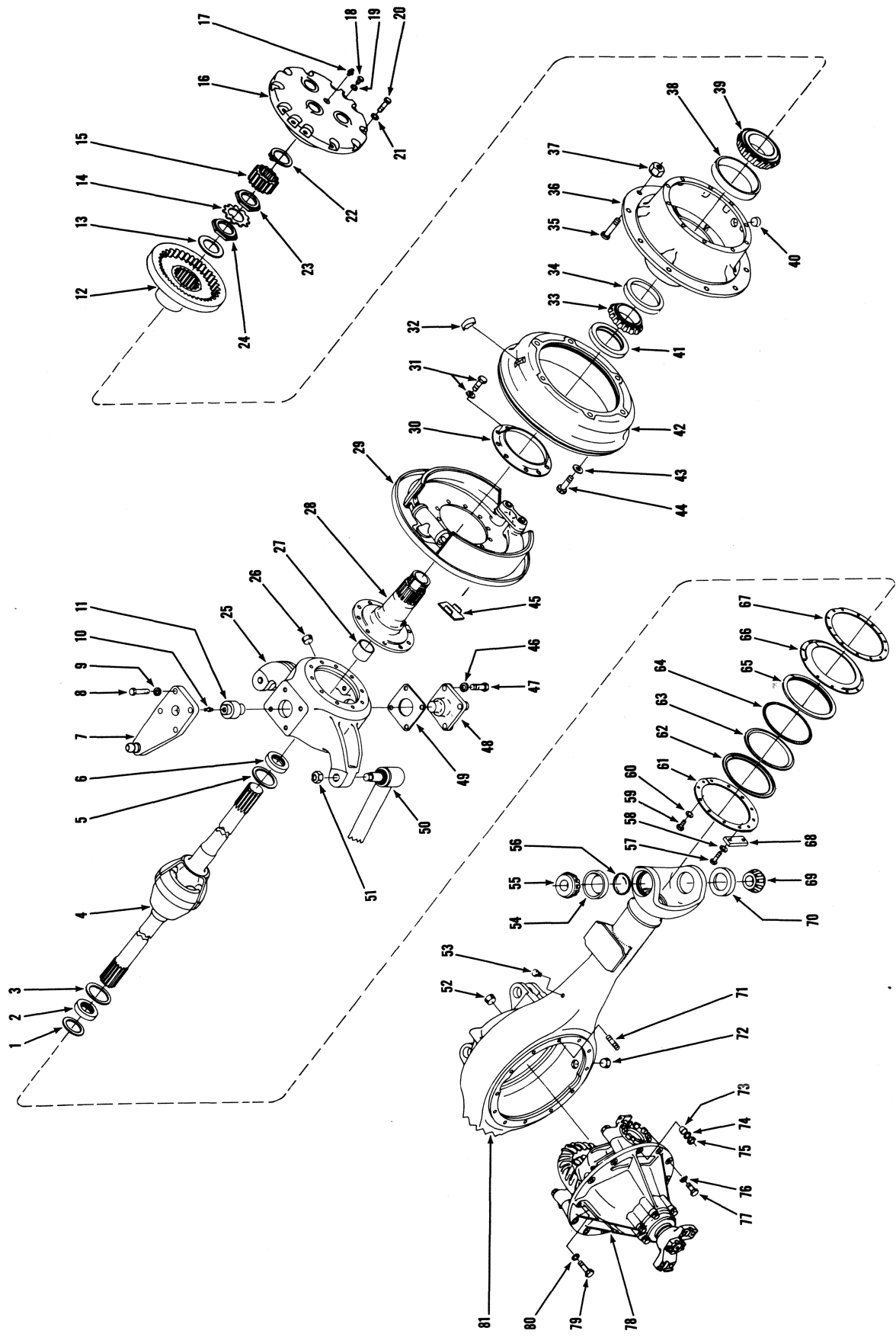
<sup>3</sup>Inc. 34, 38

<sup>4</sup>0.004" (0,10 mm)

<sup>5</sup>0.007" (0,18 mm)

<sup>6</sup>0.010" (0,25 mm)

<sup>7</sup>See Index





# Axle Assembly, Rear

**MICHIGAN**

No.	Part No.	Qty.	Description
A	1190811	1	Axle assy
1	109658	2	Washer
2	109659	2	Seal
3	106129	2	Washer
4	119970	2	Axle shaft
5	106129	2	Washer
6	109659	2	Seal
7	-----	—	Omit
8	17C-828	8	Bolt
9	4E-08	8	Lockwasher
10	10H-25	2	Fitting grease
11	109668	2	Steering trunnion
12	114591	2	Gear
13	106572	2	Washer
14	102314	2	Lock
15	120190	2	Gear
15A	†119983	2	Washer
16	<sup>7</sup> -----	2	Planet carrier assy
17	111805	2	Relief valve
18	-----	—	Omit
19	-----	—	Omit
20	100638	20	Bolt
21	112278	20	Washer
22	224104	2	Ring
23	102313	2	Nut
24	102313	2	Nut
25	114793	1	Spindle support LH
25A	†114792	1	Spindle support RH
26	11F-12	2	Plug
27	109652	2	Bushing
28	<sup>2</sup> 110242	2	Spindle
29	<sup>7</sup> -----	2	Brake assy
30	117913	2	Oil slinger
31	106539	20	Bolt
31A	†106762	20	Washer
32	100320	2	Clip
33	742257	2	Cone
34	742258	2	Cup
35	109640	20	Bolt
36	<sup>3</sup> 110240	2	Hub assy
37	109641	20	Nut
38	658990	2	Cup
39	658974	2	Cone
40	11F-12	2	Plug
41	111726	2	Seal

No.	Part No.	Qty.	Description
42	106815	2	Drum brake
43	104412	12	Washer
44	107256	12	Bolt
45	120198	8	Cover
46	4E-08	12	Lockwasher
47	17C-824	12	Bolt
48	109667	2	Steering trunnion
49	‡ <sup>4</sup> 109771	—	Shim
49A	‡ <sup>5</sup> 109772	—	Shim
49B	‡ <sup>6</sup> 109773	—	Shim
50	<sup>7</sup> -----	1	Tie rod assy
51	112174	2	Nut
52	11F-12	1	Plug
53	106656	1	Breather
54	713660	2	Cup
55	713659	2	Cone
56	109670	2	Retainer
57	1C-620	4	Bolt
58	4E-06	4	Lockwasher
59	1C-612	20	Bolt
60	4E-06	20	Lockwasher
61	109666	4	Ring
62	109665	2	Retainer
63	109663	2	Dust seal
64	109664	2	Spring
65	109662	2	Seal
66	109660	2	Retainer
67	109661	2	Gasket
68	114092	2	Stop plate
69	713659	2	Cone
70	713660	2	Cup
71	120456	12	Stud
72	11F-12	1	Plug
73	103216	3	Dowel
74	112278	12	Washer
75	64D-07	12	Nut
76	-----	—	Omit
77	-----	—	Omit
78	<sup>7</sup> -----	1	Diff carrier assy
79	-----	—	Omit
80	-----	—	Omit
81	118380	1	Housing
82	†117338	1	Brake tee
83	†550325	2	Clip

<sup>1</sup>(DS-8000) Inc. 1→83

<sup>2</sup>Inc. 27

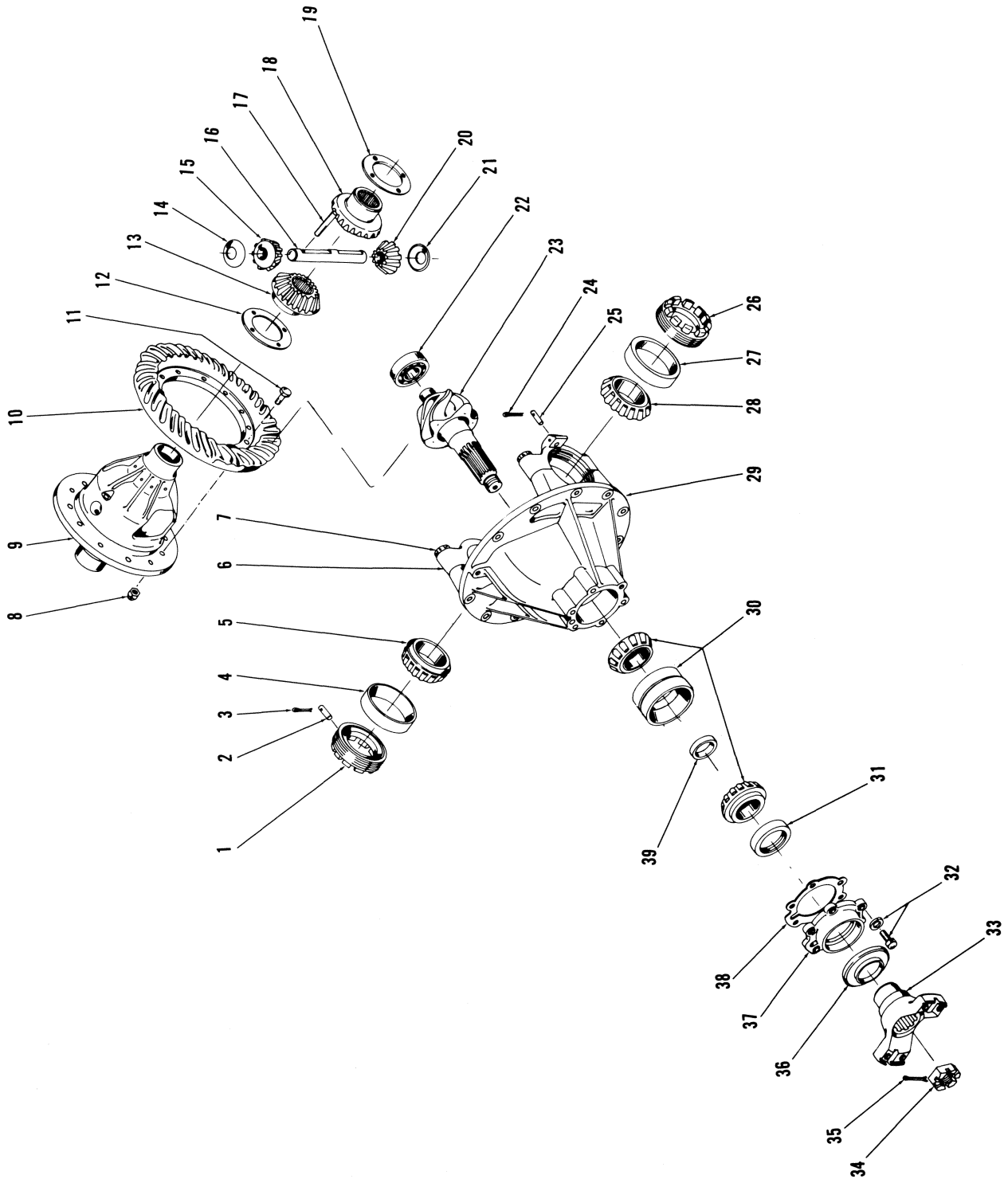
<sup>3</sup>Inc. 34, 38

<sup>4</sup>.004" (0,10 mm)

<sup>5</sup>.007" (0,18 mm)

<sup>6</sup>.010" (0,25 mm)

<sup>7</sup>See Index



# Axle Differential Carrier Assembly, Front

**MICHIGAN**

No.	Part No.	Qty.	Description
A	<sup>1</sup> 123136	1	Differential assy
1	123746	1	Nut
2	101411	1	Pin
3	1F-428	1	Pin cotter
4	667279	1	Cup
5	648334	1	Cone
6	<sup>2</sup> -----	2	Cap
7	1C-1040	4	Bolt
7A	<sup>†</sup> 26E-10	4	Lockwasher
8	109389	12	Nut
9	101396	1	Case
10	<sup>3</sup> -----	1	Gear
11	101424	12	Bolt
12	101400	1	Washer
13	101398	1	Gear
14	101399	1	Washer
15	125234	1	Pinion
16	101401	1	Pin
17	666364	1	Pin
18	101398	1	Gear
19	101400	1	Washer
20	125234	1	Pinion
21	101399	1	Washer
22	111437	1	Bearing
23	<sup>3</sup> -----	1	Pinion
24	1F-428	1	Pin cotter
25	101411	1	Pin
26	123746	1	Nut
27	667279	1	Cup
28	648334	1	Cone
29	<sup>4</sup> 122984	1	Carrier assy
30	111735	1	Bearing
31	111646	1	Seal
32	17C-724	6	Bolt
32A	<sup>†</sup> 4E-07	6	Lockwasher
33	109644	1	Flange
34	100675	1	Nut
35	1F-424	1	Pin cotter
36	100674	1	Shield
37	122943	1	Retainer
38	101407	1	Gasket
39	815082	1	Spacer kit
40	<sup>†5</sup> 111560	1	Differential assy
41	<sup>†6</sup> 101395	1	Body assy
42	<sup>†7</sup> 122414	1	Gear set

<sup>1</sup>Inc. 1 → 39

<sup>2</sup>See 29

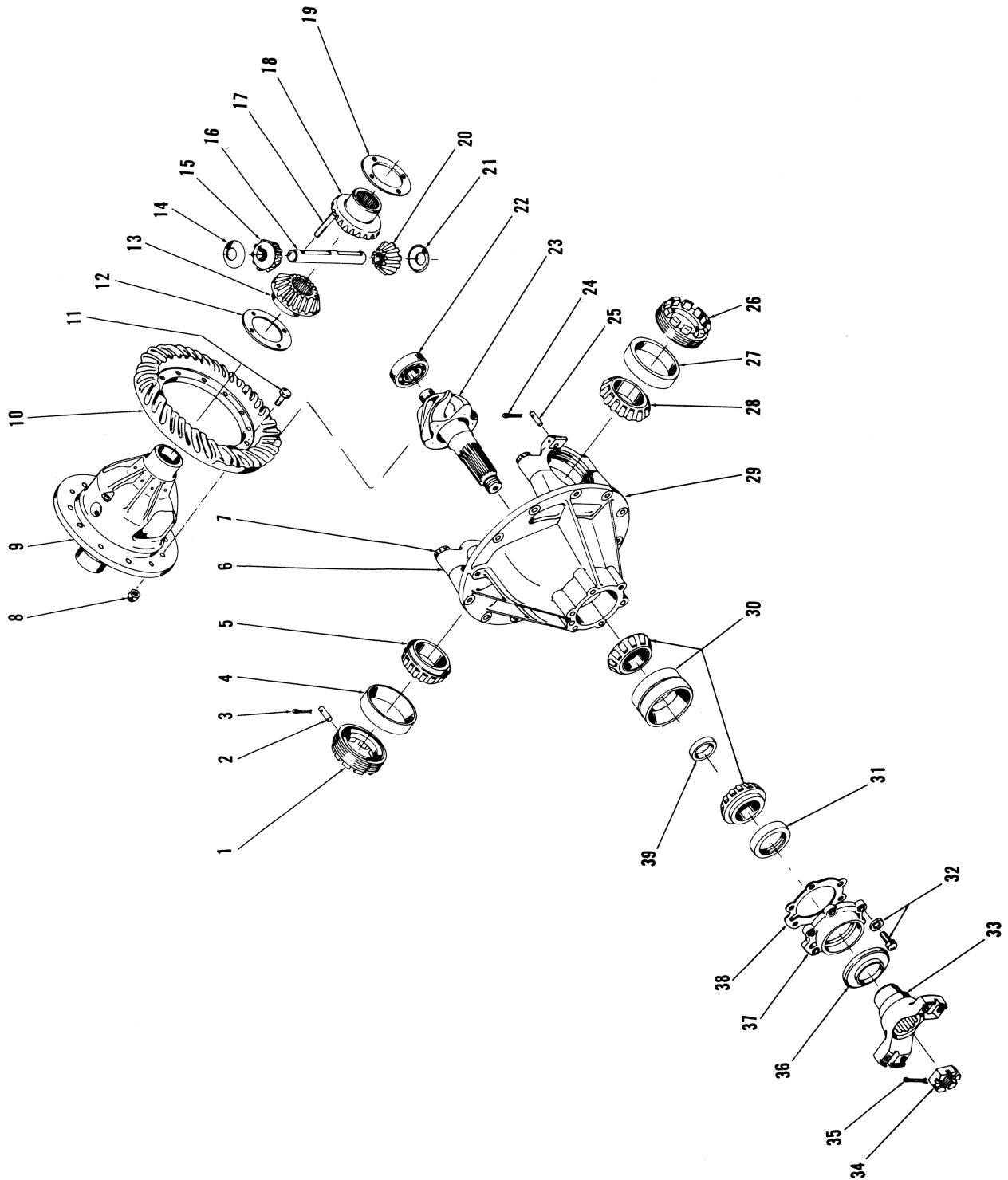
<sup>3</sup>See 42

<sup>4</sup>Inc. 6, 7, 7A

<sup>5</sup>Inc. 8 → 21, 23

<sup>6</sup>Inc. 9, 12 → 21

<sup>7</sup>Inc. 10, 23



# Axle Differential Carrier Assembly, Rear



No.	Part No.	Qty.	Description
A	<sup>1</sup> 123135	1	Differential assy
1	123746	1	Nut
2	101411	1	Pin
3	1F 428	1	Pin cotter
4	667279	1	Cup
5	648334	1	Cone
6	§ <sup>2</sup> -----	2	Cap
7	1C-1040	4	Bolt
7A	†26E-10	4	Lockwasher
8	109389	12	Nut
9	101396	1	Case
10	§ <sup>3</sup> -----	1	Gear
11	101424	12	Bolt
12	101400	1	Washer
13	101398	1	Gear
14	101399	1	Washer
15	125234	1	Pinion
16	101401	1	Pin
17	666364	1	Pin
18	101398	1	Gear
19	101400	1	Washer
20	125234	1	Pinion
21	101399	1	Washer
22	111437	1	Bearing
23	§ <sup>3</sup> -----	1	Pinion
24	1F-428	1	Pin cotter
25	101411	1	Pin
26	123746	1	Nut
27	667279	1	Cup
28	648334	1	Cone
29	<sup>4</sup> 122984	1	Carrier assy
30	111735	1	Bearing
31	111646	1	Seal
32	17C-724	6	Bolt
32A	†4E-07	6	Lockwasher
33	109644	1	Flange
34	100675	1	Nut
35	1F-424	1	Pin cotter
36	100674	1	Shield
37	122943	1	Retainer
38	101407	1	Gasket
39	815082	1	Spacer kit
40	† <sup>5</sup> 107378	1	Differential assy
41	† <sup>6</sup> 101395	1	Body assy
42	† <sup>7</sup> 122418	1	Gear set

<sup>1</sup>Inc. 1→39

<sup>2</sup>See 29

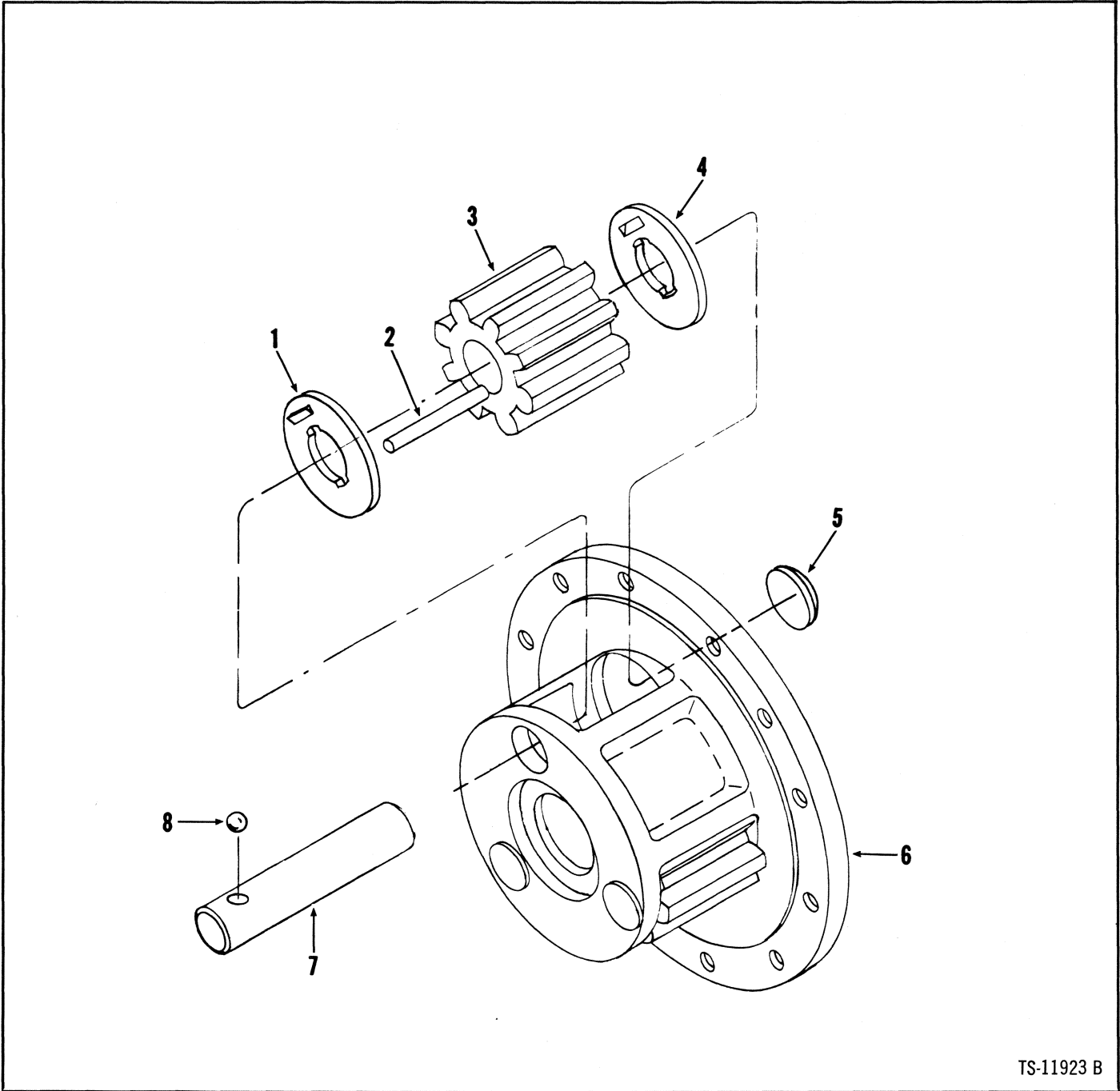
<sup>3</sup>See 42

<sup>4</sup>Inc. 6, 7, 7A

<sup>5</sup>Inc. 8→21, 23

<sup>6</sup>Inc. 9, 12→21

<sup>7</sup>Inc. 10, 23

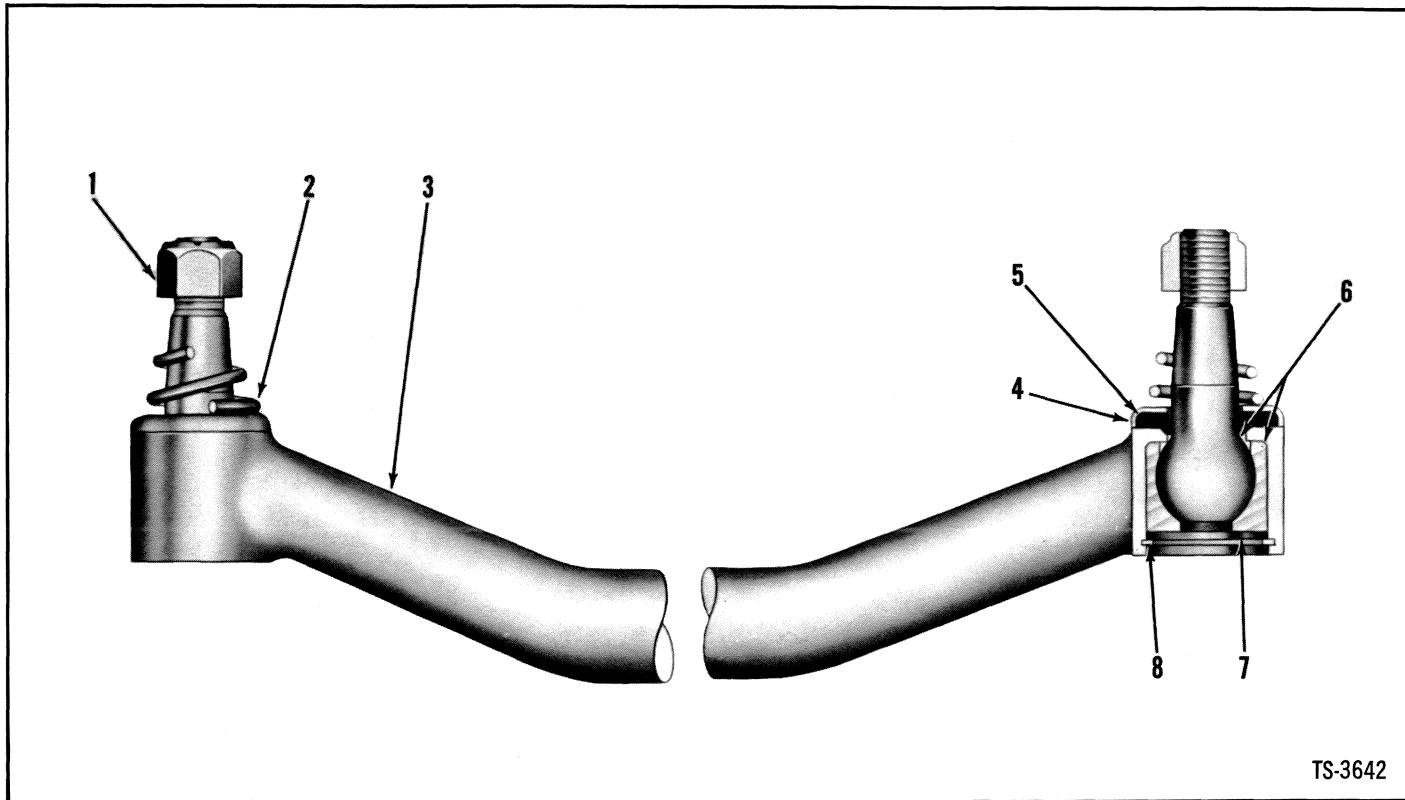


TS-11923 B

No.	Part No.	Qty.	Description
A	123621	2	Carrier assy
1	123620	3	Washer
2	123627	72	Roller
3	123618	3	Gear
4	123620	3	Washer
5	12F-108	3	Plug
6	123623	1	Carrier
7	123619	3	Gear shaft
8	10J-12	3	Ball

<sup>1</sup>Inc. 1→8 Two (2) Carriers used per axle. Quantities listed are for one (1) Carrier.

# Axle Tie Rod Assembly



TS-3642

No.	Part No.	Qty.	Description
A	532447	2	Tie rod assy
1	112174	2	Nut
2	106268	2	Spring
3	§ <sup>2</sup> -----	1	Tie rod
4	106138	2	Retainer
5	106137	2	Washer felt
6	117228	2	Ball stud
7	524066	2	Plate
7A	†10H-25	2	Fitting grease
8	507695	2	Ring snap

<sup>1</sup>Incl. 1→8. Two (2) Tie Rods used on machine. Quantities listed are for one (1) Tie Rod.

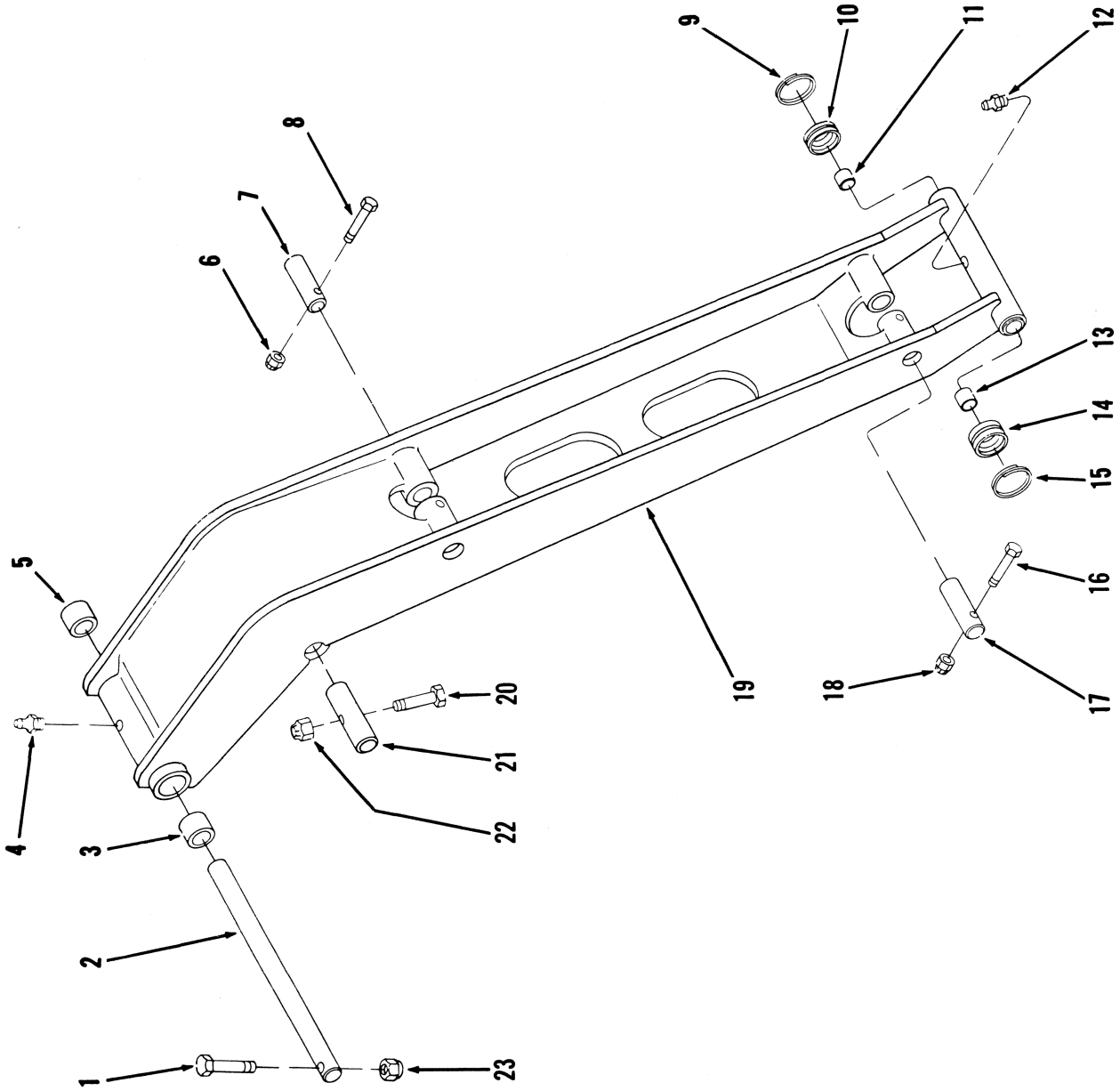
<sup>2</sup>See A





**Group B**

Boom Group .....	B3
Brake Air Lines – Section A .....	B5
Brake Air Lines – Section B .....	B7
Brake Assembly .....	B10
Brake Assembly, Parking .....	B11
Brake Compensator Cylinder Assembly .....	B13
Brake Controls .....	B14
Brake Controls, Parking .....	B15
Brake Power Cluster Assembly .....	B17
Brake Wheel Cylinder Assembly .....	B18
Bucket Assembly Data .....	B19
Bucket Linkage & Indicator .....	B21

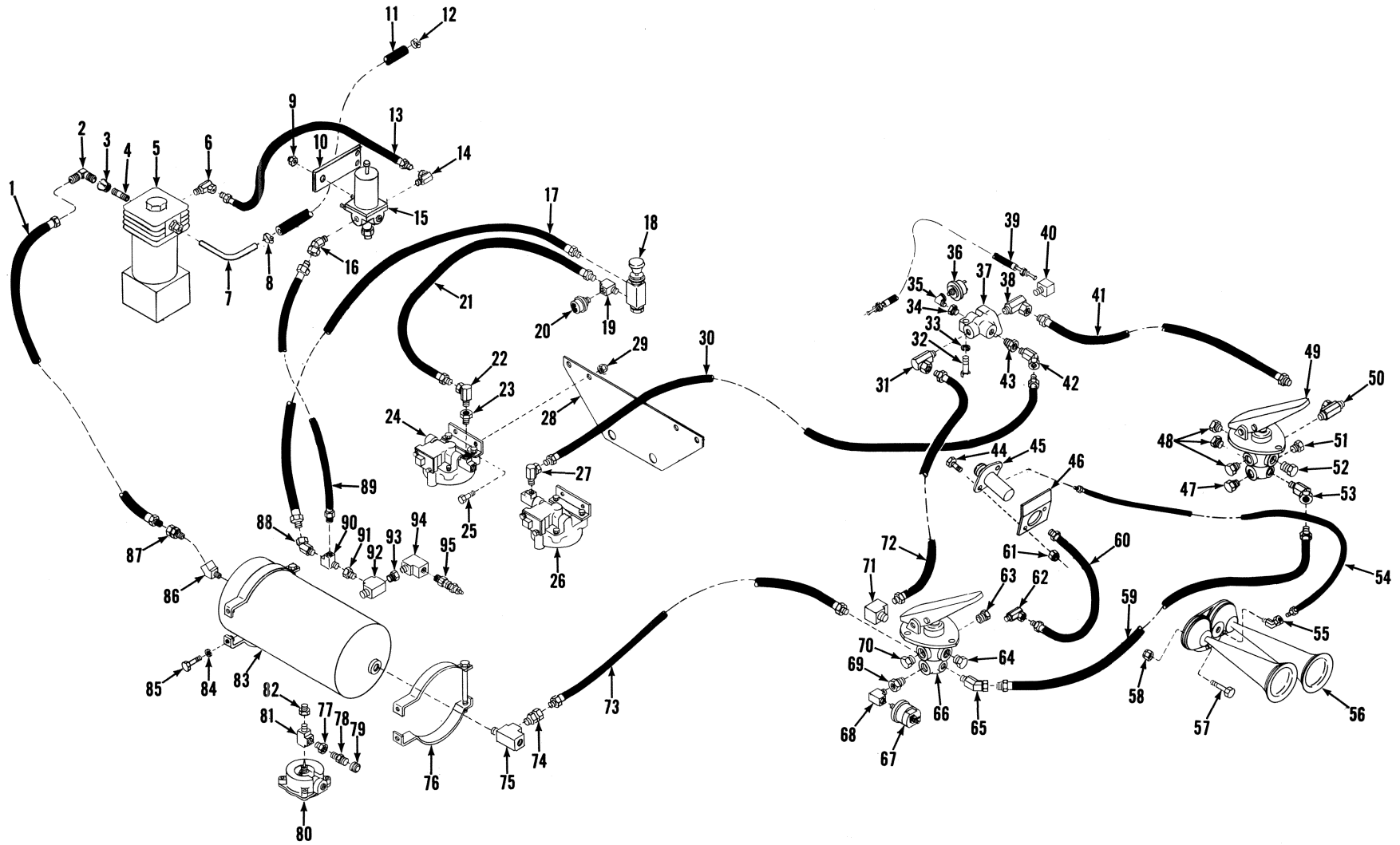


# Boom Group

# CLARK

No.	Part No.	Qty.	Description
1	24C-868	1	Bolt
2	584714	1	Shaft
3	523044	1	Bushing
4	10H-25	1	Fitting grease
5	523044	1	Bushing
6	18D-08	1	Locknut
7	586199	1	Pin
8	24C-856	1	Bolt
9	28H-11100	1	Lockwire
10	585311	1	Seal
11	585644	1	Bushing
12	10H-25	1	Fitting grease
13	585644	1	Bushing
14	585311	1	Seal
15	28H-11100	1	Lockwire
16	24C-856	1	Bolt
17	586199	1	Pin
18	18D-08	1	Nut
19	1517211	1	Boom assy
20	24C-868	1	Bolt
21	590035	1	Pin
22	18D-08	1	Nut
23	18D-08	1	Nut

1Inc. 3, 5, 11, 13



# Brake Air Lines — Section A



No.	Part No.	Qty.	Description
1	1545160	1	Hose
2	42F-9	1	Elbow
3	76F-4	1	Coupling
4	5K-308	1	Nipple
5	<sup>1</sup> _____	1	Air compressor
6	31F-1	1	Adapter union
7	1517233	1	Tube
8	521874	1	Clamp
9	18D-05	2	Nut
9A	†24C-548	2	Bolt
10	2511667	1	Bracket
11	1517275	1	Hose
12	521874	1	Clamp
13	2511704	1	Hose
13A	†30H-14	1	Clip
14	31F-1	1	Adapter union
15	<sup>1</sup> _____	1	Governor
16	33F-1	1	Adapter union
17	543697	1	Hose
18	1545790	1	Valve hand brake
19	1549038	1	Tee
20	<sup>2</sup> _____	1	Switch pressure
21	1527928	1	Hose
21A	†1513922	1	Grommet
22	31F-1	1	Adapter union
23	19F-1	1	Bushing
24	1545789	1	Valve relay
25	24C-616	4	Bolt
26	1545789	1	Valve relay
27	31F-2	1	Adapter union
28	1516112	1	Bracket
29	18D-06	4	Nut
30	564637	1	Hose
31	31F-4	1	Adapter union
32	24C-644	1	Bolt
33	4E-06	1	Lockwasher
34	19F-4	1	Bushing
35	26F-1	1	Elbow
36	<sup>2</sup> _____	1	Switch stop light
37	<sup>3,4</sup> 1532592	1	Valve check
38	356609	1	Elbow
39	536934	1	Hose
40	31F-1	1	Adapter union
41	592742	1	Hose
42	33F-3	1	Adapter union
43	19F-6	1	Bushing
44	24C-416	2	Bolt
45	530663	1	Switch horn
46	1517215	1	Bracket
46A	†24C-416	2	Bolt
46B	†18D-04	2	Nut

No.	Part No.	Qty.	Description
47	40K-04	1	Plug
48	40K-08	3	Plug
49	<sup>1</sup> _____	1	Valve brake
50	31F-4	1	Adapter union
51	40K-04	1	Plug
52	40K-08	1	Plug
53	33F-4	1	Adapter union
54	1517236	1	Hose
55	33F-2	1	Adapter union
56	1517279	1	Horn
57	24C-416	2	Bolt
58	18D-04	2	Nut
59	593483	1	Hose
60	1511077	1	Hose
61	18D-04	2	Nut
62	31F-2	1	Adapter union
63	40K-08	1	Plug
64	40K-08	1	Plug
65	33F-4	1	Adapter union
66	<sup>1</sup> _____	1	Valve brake
67	<sup>2</sup> _____	1	Sender air press
68	29F-1	1	Elbow
69	19F-1	1	Bushing
70	40K-08	1	Plug
71	29F-3	1	Elbow
72	592783	1	Hose
73	1513323	1	Hose
74	36F-4	1	Adapter union
75	30F-3	1	Tee
76	1515848	2	Bracket
77	19F-1	1	Bushing
78	573618	1	Stem
79	573750	1	Cap
80	1505580	1	Valve drain
81	30F-1	1	Tee
82	19F-5	1	Bushing
83	540707	1	Air reservoir
84	4E-06	4	Lockwasher
85	24C-620	4	Bolt
86	81F-3	1	Elbow
87	36F-4	1	Adapter union
88	33F-1	1	Adapter union
89	544273	1	Hose
89A	†30H-38	1	Clip
90	1549038	1	Tee
91	19F-4	1	Bushing
92	29F-1	1	Elbow
93	19F-5	1	Bushing
94	29F-1	1	Elbow
95	<sup>4,5</sup> 507815	1	Valve safety

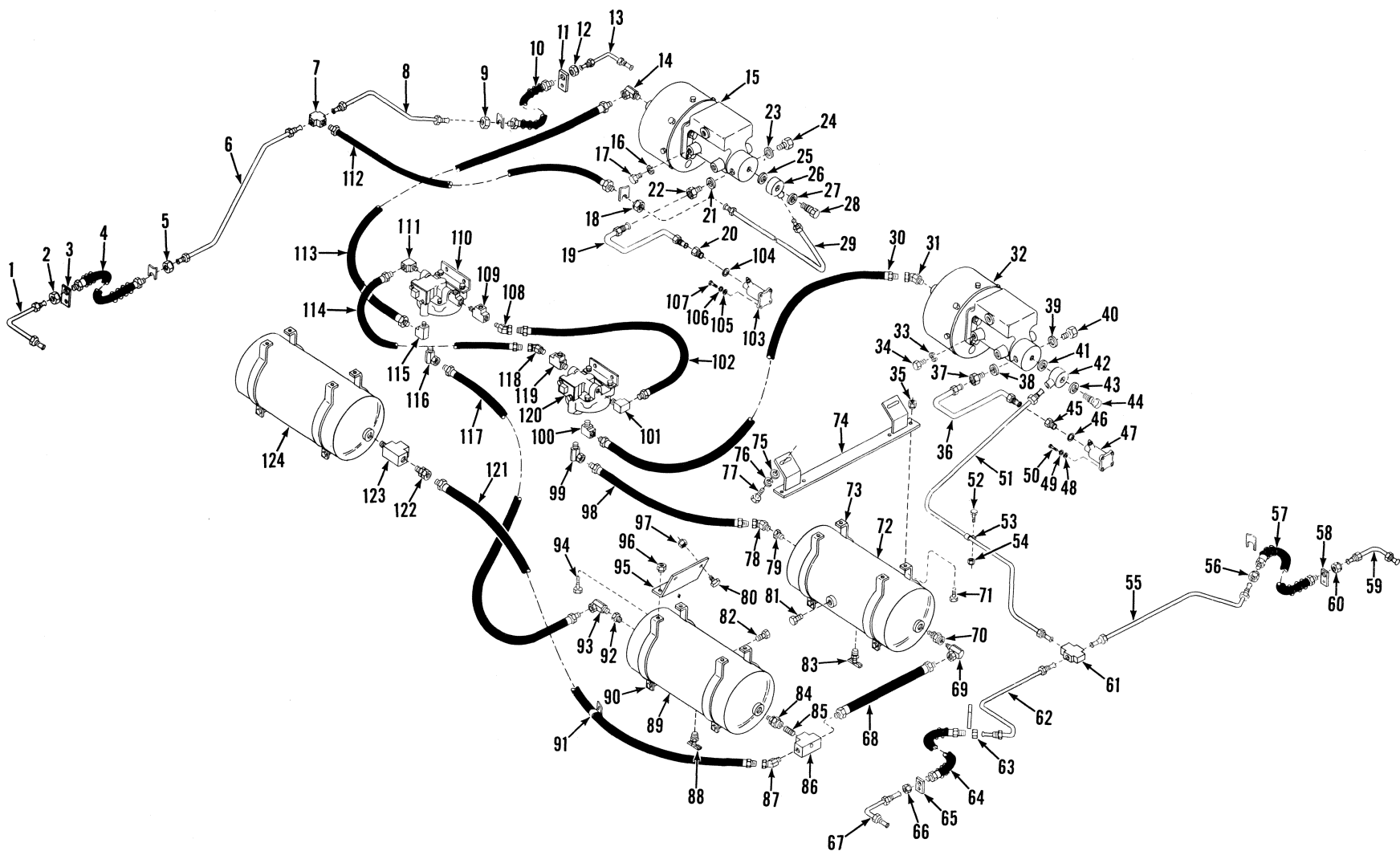
<sup>1</sup>See Index

<sup>2</sup>See Electrical Group

<sup>3</sup>BW #223869

<sup>4</sup>Your local Bendix-Westinghouse Distributor is equipped to service components of these parts.

<sup>5</sup>BW #205105



# Brake Air Lines — Section B

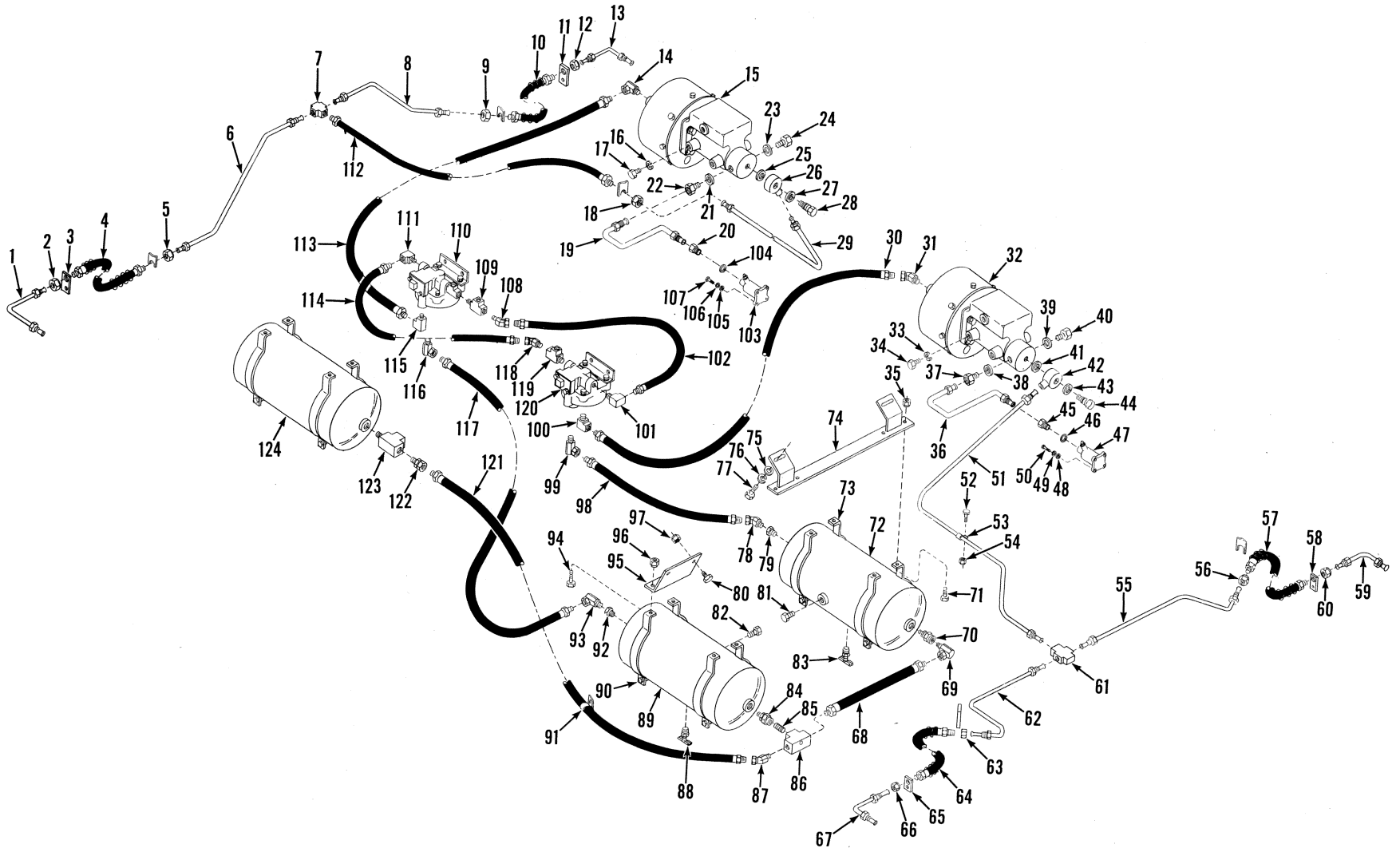
No.	Part No.	Qty.	Description
1	536017	1	Tube
2	8D-10	1	Nut
3	<sup>2</sup> 550325	1	Clip
4	552374	1	Hose
5	8D-10	1	Nut
6	558587	1	Tube
7	<sup>3</sup> 114427	1	Tee
8	558588	1	Tube
9	8D-10	1	Nut
10	552374	1	Hose
11	<sup>2</sup> 550325	1	Clip
12	8D-10	1	Nut
13	536017	1	Tube
14	31F-3	1	Adapter union
15	<sup>1</sup> _____	1	Pwr clsr assy brk
16	4E-07	3	Lockwasher
17	24C-716	3	Bolt
18	8D-10	1	Nut
19	2512359	1	Tube
20	1675961	1	Adapter
21	2511196	1	Gasket
22	699005	1	Adapter
23	2511196	1	Gasket
24	874007	1	Plug
25	620238	1	Gasket
26	620235	1	Fitting
27	2511196	1	Gasket
28	692722	1	Bolt
29	1516135	1	Tube
30	564637	1	Hose
31	33F-3	1	Adapter union
32	<sup>1</sup> _____	1	Pwr clsr assy brk
33	4E-07	3	Lockwasher
34	24C-716	3	Bolt
35	18D-06	4	Nut

No.	Part No.	Qty.	Description
36	2511090	1	Tube
37	699005	1	Adapter
38	2511196	1	Gasket
39	2511196	1	Gasket
40	874007	1	Plug
41	620238	1	Gasket
42	620235	1	Fitting
43	2511196	1	Gasket
44	692722	1	Bolt
45	1675961	1	Adapter
46	2506979	1	Gasket
47	<sup>1</sup> _____	1	Brake cylinder assy
48	25E-17	2	Washer
49	4E-06	2	Lockwasher
50	24C-620	2	Bolt
51	1516131	1	Tube
52	24C-616	1	Bolt
53	30H-16	1	Clip
54	18D-06	1	Nut
55	1516130	1	Tube
56	8D-10	1	Nut
57	552374	1	Hose
58	<sup>2</sup> 550325	1	Clip
59	536017	1	Tube
60	8D-10	1	Nut
61	550320	1	Tee
62	1516129	1	Tube
63	8D-10	1	Nut
64	552374	1	Hose
65	<sup>2</sup> 550325	1	Clip
66	8D-10	1	Nut
67	536017	1	Tube
68	592742	1	Hose
69	31F-4	1	Adapter union
70	593370	1	Valve check

<sup>1</sup>See Index

<sup>2</sup>Mounted on Axle

<sup>3</sup>Furnished with Axle





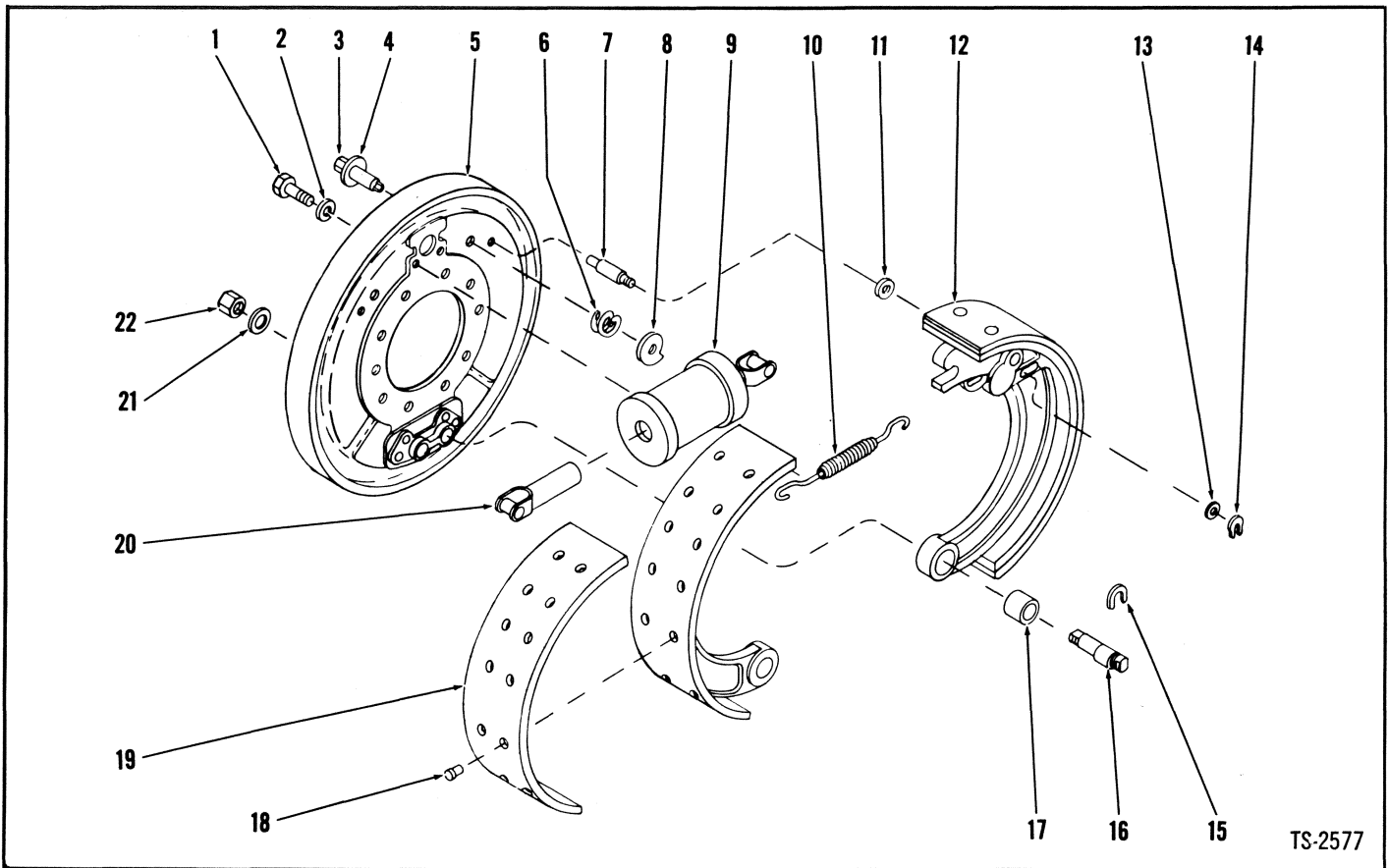
# Brake Air Lines – Section B

No.	Part No.	Qty.	Description
71	24C-620	4	Bolt
72	540707	1	Air reservoir
73	941214	2	Bracket
74	1516114	1	Bracket
75	25E-18	2	Washer
76	4E-06	2	Lockwasher
77	24C-616	2	Bolt
78	33F-3	1	Adapter union
79	19F-6	1	Bushing
80	24C-624	4	Bolt
81	40K-08	1	Plug
82	40K-08	1	Plug
83	72F-4	1	Draincock
84	593370	1	Valve check
85	5K-409	1	Nipple
86	28F-3	1	Tee
87	33F-1	1	Adapter union
88	72F-4	1	Draincock
89	540707	1	Air reservoir
90	941214	2	Bracket
91	30H-48	1	Clip
92	19F-6	1	Bushing
93	31F-3	1	Adapter union
94	24C-620	4	Bolt
95	1516117	2	Bracket
96	18D-06	4	Nut
97	18D-06	4	Nut

No.	Part No.	Qty.	Description
98	594133	1	Hose
99	31F-3	1	Adapter union
100	29F-1	1	Elbow
101	29F-1	1	Elbow
102	593495	1	Hose
103	1-----	1	Brake cylinder assy
104	2506979	1	Gasket
105	25E-17	2	Washer
106	4E-06	2	Lockwasher
107	24C-620	2	Bolt
108	33F-2	1	Adapter union
109	30F-1	1	Tee
110	4-----	1	Valve relay
111	29F-1	1	Elbow
112	550324	1	Hose
113	564637	1	Hose
114	593495	1	Hose
115	29F-1	1	Elbow
116	31F-3	1	Adapter union
117	564669	1	Hose
118	33F-2	1	Adapter union
119	30F-1	1	Tee
120	4-----	1	Valve relay
121	564645	1	Hose
122	36F-4	1	Adapter union
123	30F-3	1	Tee
124	540707	1	Air reservoir

<sup>1</sup>See Index

<sup>4</sup>See Section A



TS-2577

No.	Part No.	Qty.	Description
A	<sup>1</sup> 120505	4	Brake assy
1	1C-510	2	Bolt
2	4E-05	2	Lockwasher
3	<sup>2</sup> 114170	2	Pin
4	100867	2	Washer
5	<sup>3</sup> 106817	1	Disc assy
6	100865	2	Spring
7	100877	2	Pin guide
8	100864	2	Cam
9	<sup>7</sup> -----	1	Brake wheel cylinder
10	100879	2	Spring return
11	102322	2	Washer
12	<sup>4</sup> 120507	2	Brake shoe assy
13	102322	2	Washer
14	100878	2	C — washer
15	100613	2	C — washer
16	102498	2	Pin anchor
17	102497	2	Bushing
18	23H-707	24	Rivet
19	<sup>5</sup> 944216	2	Lining brake
19A	<sup>6</sup> 945998	2	Lining brake
20	853402	2	Link
21	6E-12	2	Lockwasher
22	62D-12	2	Nut

<sup>1</sup>Incl. 1-22. Four (4) Brake Assemblies used on Machine. Quantities listed are for one (1) Brake.

<sup>2</sup>Incl. 4

<sup>5</sup>Std. Incl. 18

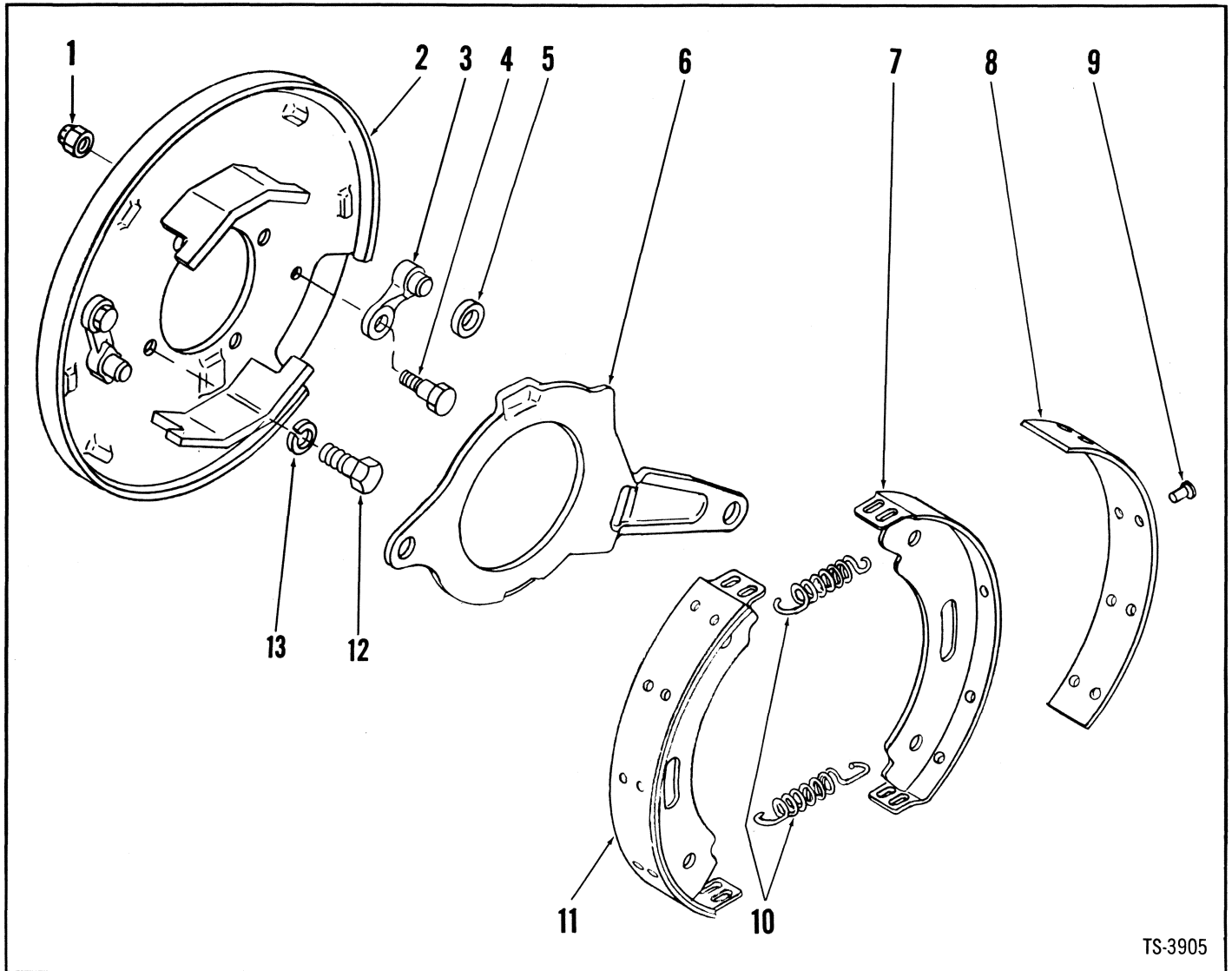
<sup>3</sup>Incl. 3, 4, 6, 7, 8

<sup>6</sup>1/4" O.S. Incl. 18

<sup>4</sup>Incl. 17, 18, 19

<sup>7</sup>See Index

# Brake Assembly, Parking



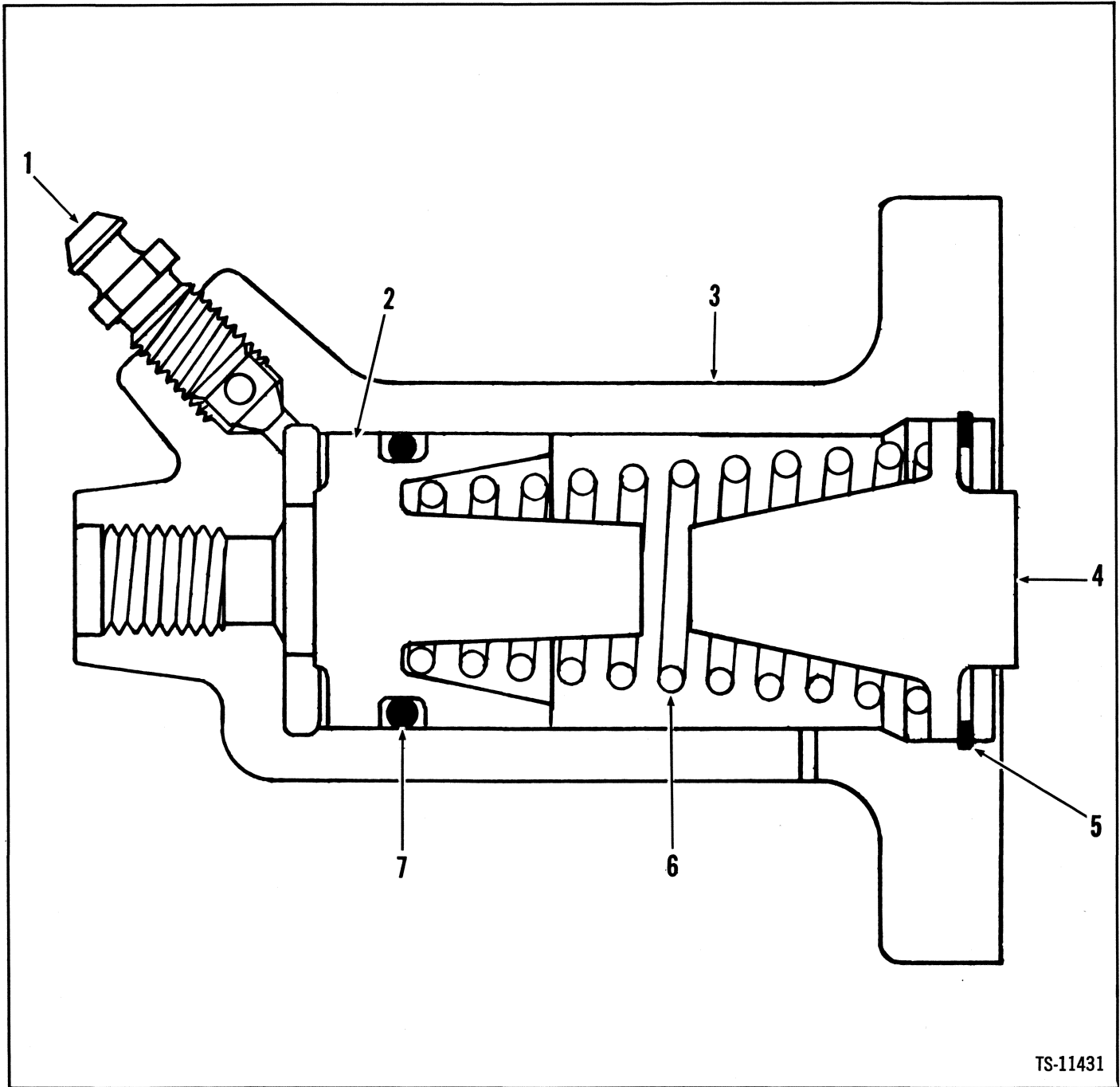
TS-3905

No.	Part No.	Qty.	Description
A	'215159	1	Brake assy
1	43D-06	2	Nut
2	'801217	1	Plate backing
3	'801213	2	Panel kit
4	886718	2	Bolt
5	801215	2	Roller
6	801216	1	Lever
7	§4-----	2	Brake shoe
8	'5801214	1	Lining brake
9	23H-504	20	Rivet
10	801193	2	Spring
11	'6801192	2	Brake shoe assy
12	1C-916	4	Bolt
13	4E-09	4	Lockwasher

1<sup>1</sup>Inc. 1 → 13  
 2<sup>1</sup>Inc. 1, 3, 4, 5  
 3<sup>1</sup>Inc. 1, 4, 5  
 4<sup>1</sup>See 11  
 5<sup>1</sup>Inc. 9  
 6<sup>1</sup>Inc. 7, 8, 9,



# Brake Compensator Cylinder Assembly

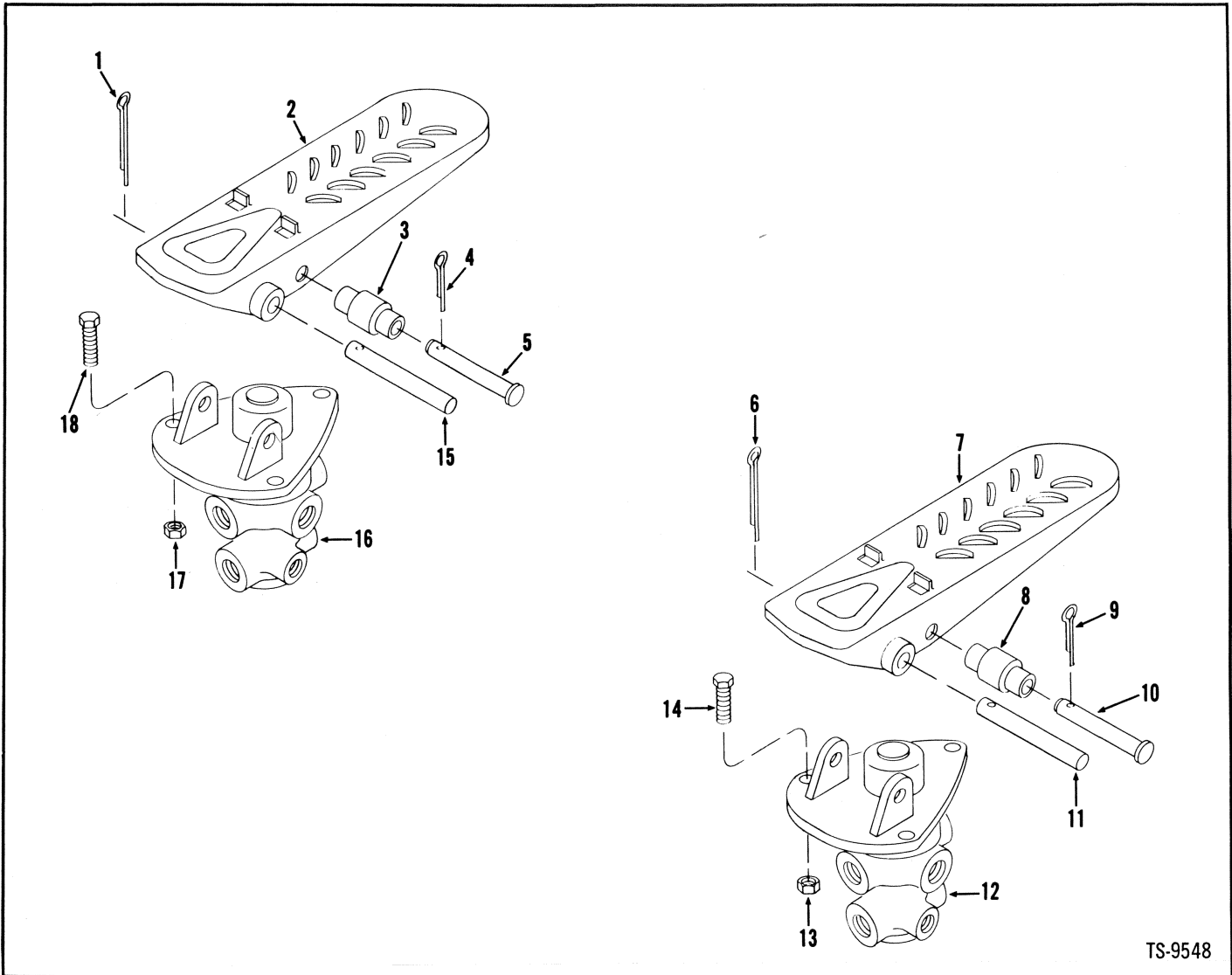


TS-11431

No.	Part No.	Qty.	Description
A	2501983	1	Cylinder assy
1	851806	1	Bleed screw
2	960520	1	Piston
3	<sup>2</sup> _____	1	Housing
4	<sup>3</sup> _____	1	Plug
5	1310605	1	Ring retainer
6	898702	1	Spring
7	961026	1	O-ring

<sup>2</sup>Incl. 1 → 7

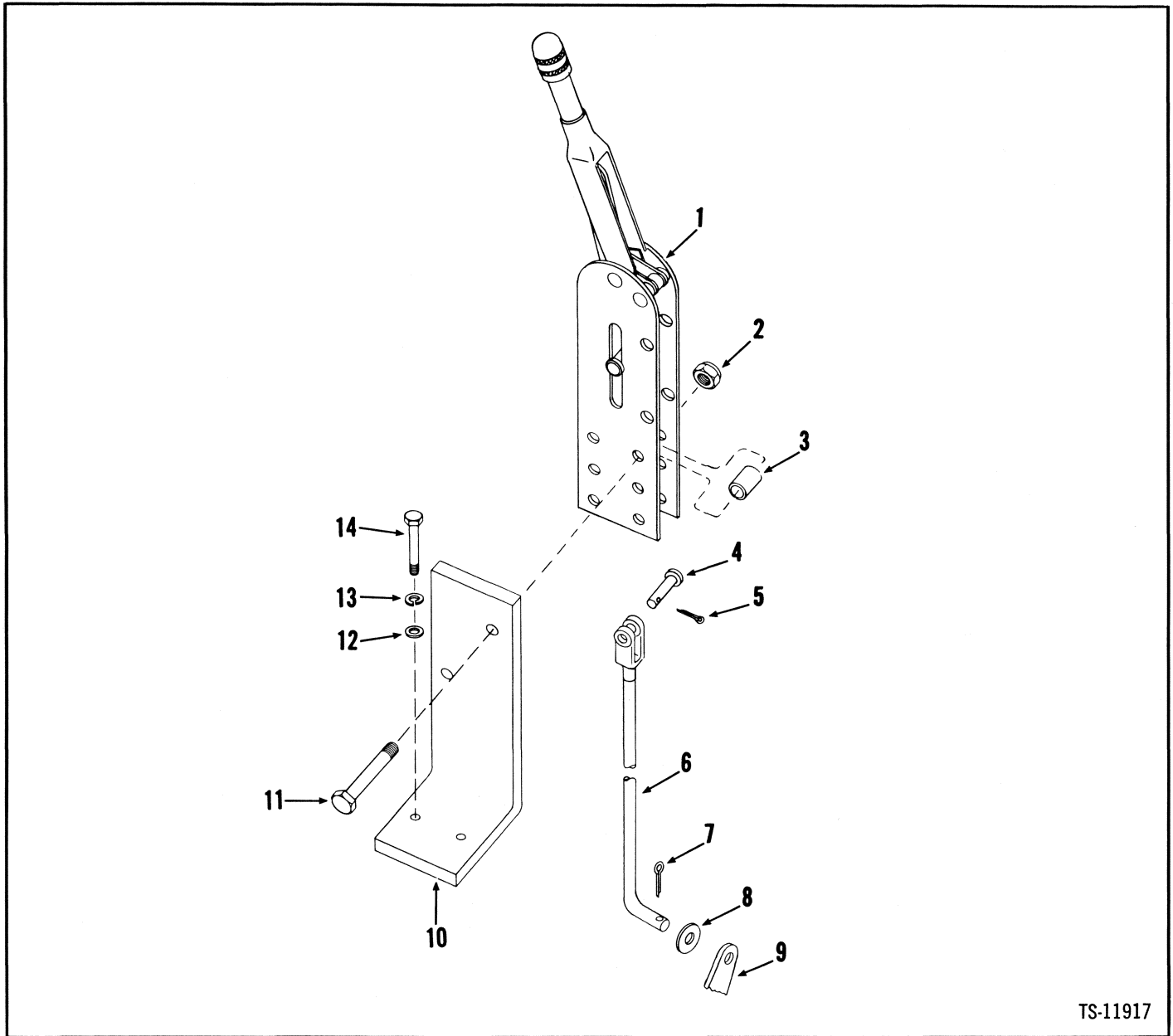
<sup>3</sup>See A



TS-9548

No.	Part No.	Qty.	Description
1	1F-320	1	Pin cotter
2	513930	1	Pedal brake
3	518259	1	Roller
4	1F-312	1	Pin cotter
5	875766	1	Pin
6	1F-320	1	Pin cotter
7	513930	1	Pedal brake
8	518259	1	Roller
9	1F-312	1	Pin cotter
10	875766	1	Pin
11	875767	1	Pin mounting
12	1_____	1	Valve brake
13	18D-05	3	Nut
14	24C-520	3	Bolt
15	875767	1	Pin mounting
16	1_____	1	Valve brake
17	18D-05	3	Nut
18	24C-520	3	Bolt

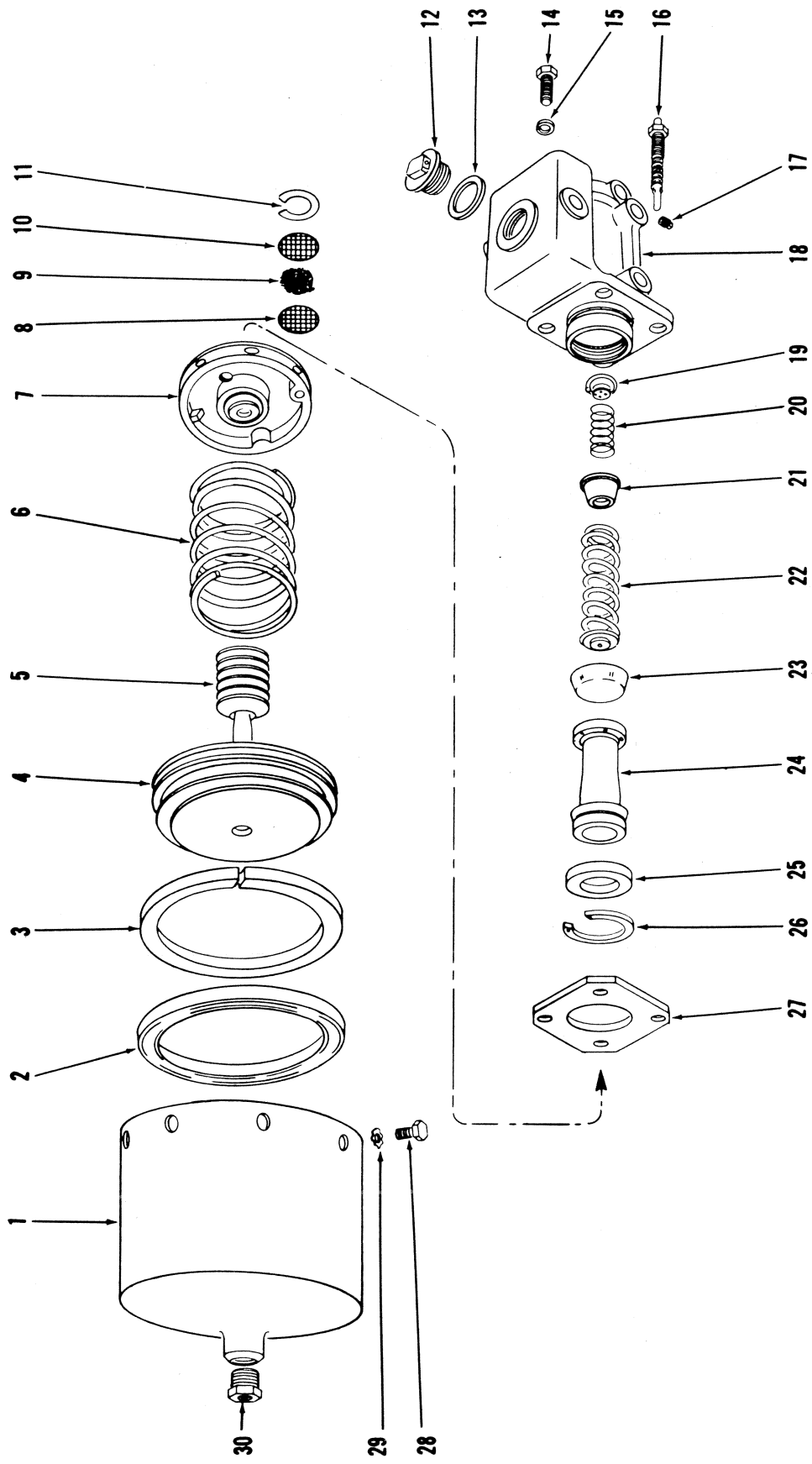
<sup>1</sup>See Index



TS-11917

No.	Part No.	Qty.	Description
1	544998	1	Hand lever assy
2	18D-05	2	Nut
3	545005	2	Spacer
4	4F-05062	2	Pin
5	1F-312	1	Pin cotter
6	1516159	1	Rod
7	1F-312	1	Pin cotter
8	25E-17	1	Washer
9	1-----	1	Brake assy
10	1516133	1	Bracket
11	24C-532	2	Bolt
12	25E-17	2	Washer
13	4E-06	2	Lockwasher
14	24C-616	2	Bolt

<sup>1</sup>See Index



TS-3220



# Brake Power Cluster Assembly

**MICHIGAN**

No.	Part No.	Qty.	Description
A	<sup>1,3</sup> 945034	2	Pwr clsr assy brk
B	<sup>2</sup> 945041	1	Repair kit
1	945034	1	Shell
2	<sup>3</sup> _____	1	Cup
3	<sup>3</sup> _____	1	Wiper
4	<sup>3</sup> 945035	4	Piston
5	<sup>3</sup> _____	1	Boot
6	945036	1	Spring
7	<sup>4</sup> 945037	1	Piston head assy
8	945029	1	Screen
9	992163	1	Filter fiber mat
10	945029	1	Screen
11	992164	1	Ring
12	892287	1	Cap
13	857933	1	Gasket
14	1C-624	3	Bolt
15	4E-06	4	Lockwasher
16	945038	1	Indicator
17	10F-02	1	Plug
18	947740	1	Housing
19	<sup>3</sup> _____	1	Valve check
20	945026	1	Spring
21	945042	1	Retainer
22	955321	1	Spring
23	<sup>3</sup> _____	1	Cup
24	<sup>3</sup> _____	1	Piston
25	955326	1	Plate
26	955323	1	Ring
27	945040	1	Plate
28	1C-510	8	Bolt
29	6E-05	8	Lockwasher
30	356612	1	Bushing

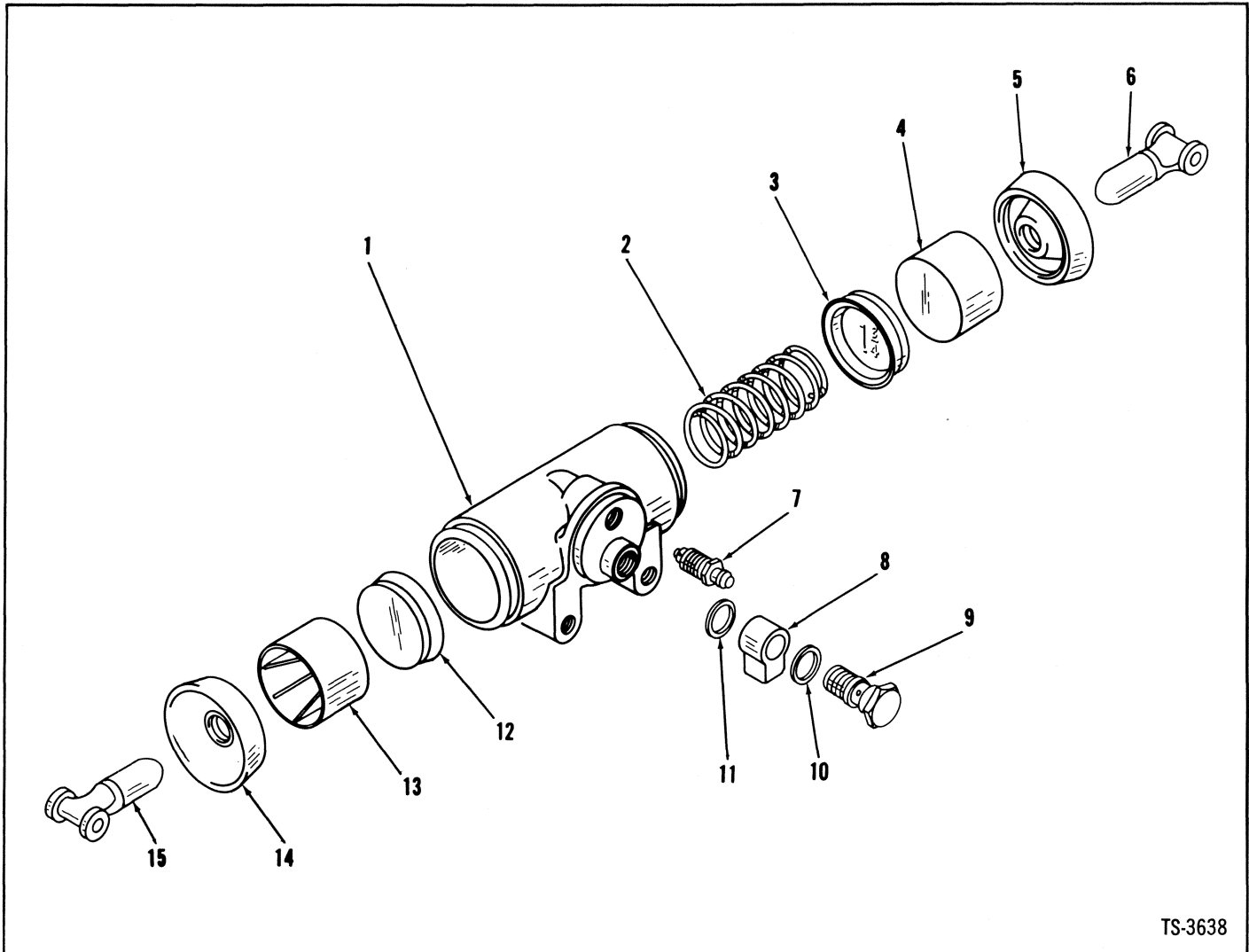
<sup>1</sup>Inc. 1 → 30

<sup>2</sup>Inc. 2, 3, 5, 19, 23, 24

<sup>3</sup>See B

<sup>4</sup>Inc. 8 → 11

<sup>5</sup>Two (2) power clusters used on machine. Quantities listed are for one (1) power cluster.



TS-3638

No.	Part No.	Qty.	Description
A	<sup>1</sup> 124214	4	Cylinder assembly
B	<sup>2</sup> 853405	1	Repair kit
1	<sup>3</sup> _____	1	Housing
2	853400	1	Spring
3	<sup>4</sup> _____	1	Cup
4	<sup>3</sup> _____	1	Piston
5	<sup>4</sup> _____	1	Boot
6	853402	1	Link
7	208805	1	Bleeder
8	620235	1	Fitting
9	692722	1	Bolt
10	620238	1	Gasket
11	613750	1	Gasket
12	<sup>4</sup> _____	1	Cup
13	<sup>3</sup> _____	1	Piston
14	<sup>4</sup> _____	1	Boot
15	853402	1	Link

<sup>1</sup>Inc. 1→5, 12→14. Four (4) Wheel Cylinder Assemblies used per machine. Quantities listed are for one (1) Wheel Cylinder Assembly.

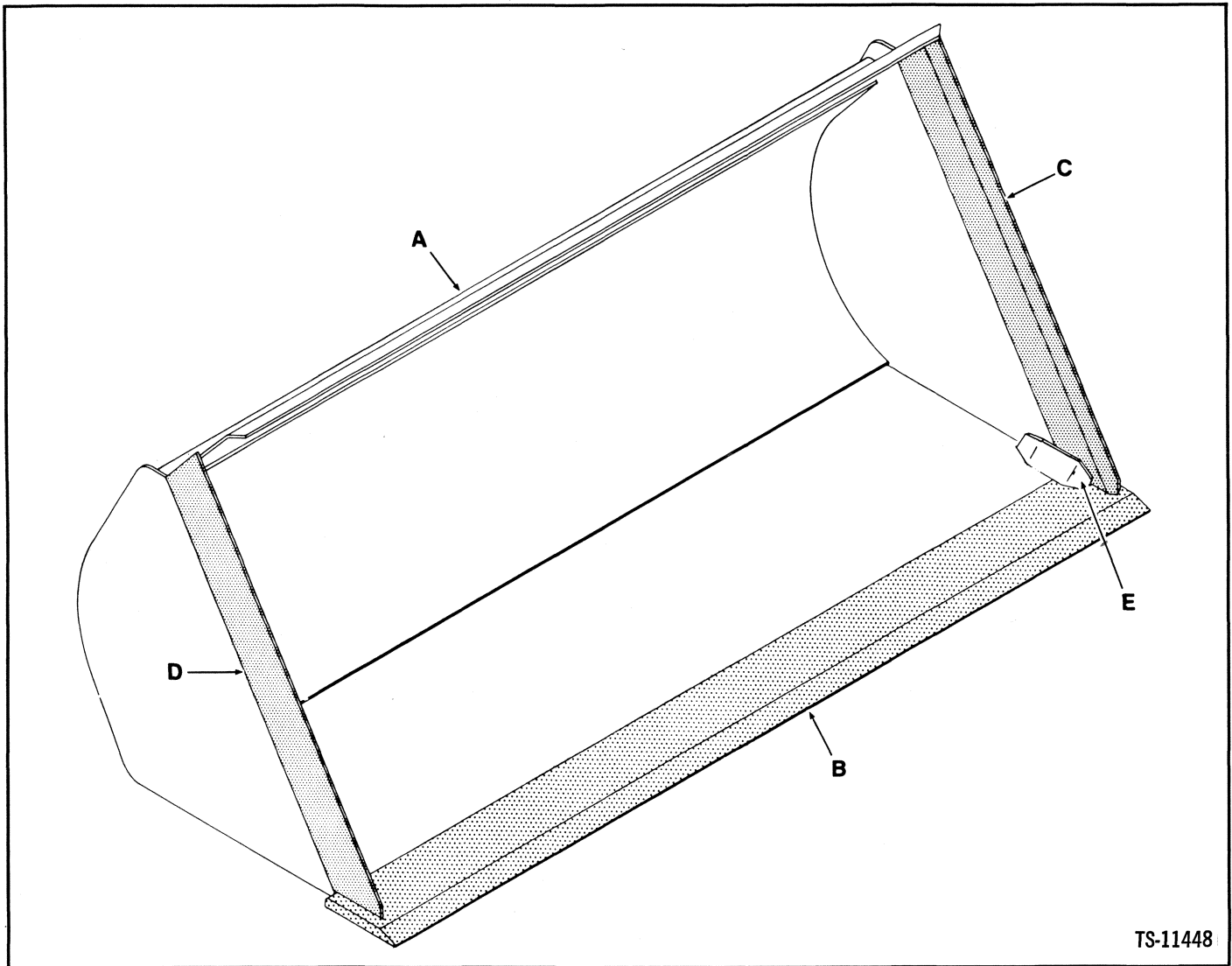
<sup>2</sup>Inc. 3, 5, 12, 14

<sup>3</sup>See A

<sup>4</sup>See B

# Bucket Assembly Data

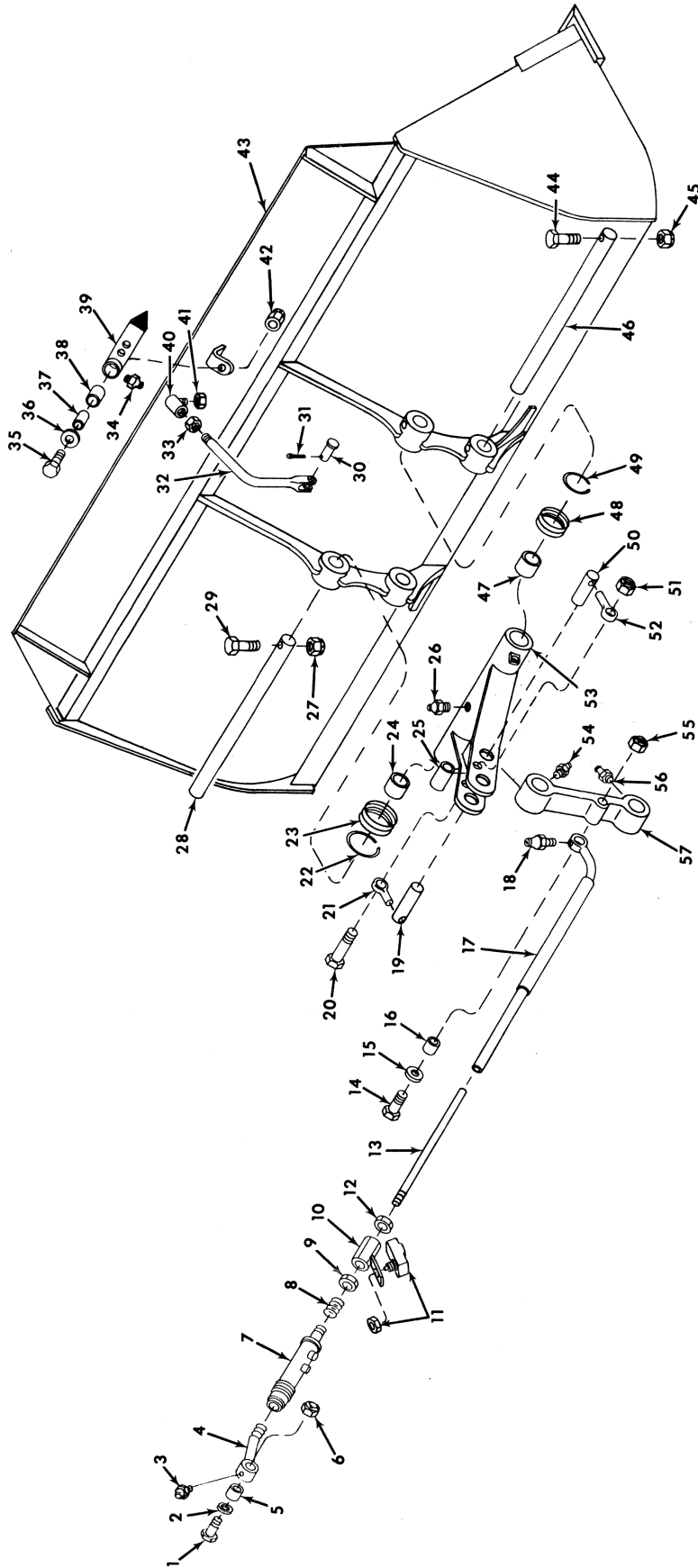
**MICHIGAN**



TS-11448

BUCKET			MAIN CUTTING EDGE			SIDE CUTTING EDGES			<sup>2</sup> GUSSET
Item	S.A.E. Heaped Capacity Cu. Yd.	Width	A Part No.	B Part No.	Size"	C L.H. Part No.	D R.H. Part No.	Size"	E Part No.
1	1	83"	586159	586173	3/4x8x84-1/4	940172	940173	1/2x3x10	1508522
1A	1	83"	*562156	586173	3/4x8x84-1/4	940172	940173	1/2x3x10	1508522
2	1 1/4	83"	586174	586173	3/4x8x84-1/4	586180	586179	1/2x3x34 1/8	1508522
3	1 1/2	83"	1545901	586173	3/4x8x84-1/4	1545978	1545977	1/2x3x38.88	1508522
4	1 3/4	84 1/2"	558260	529115	3/4x8x86-1/4	940172	940173	1/2x3x10	1508522
5	2	83"	562488	586173	3/4x8x84-1/4	940172	940173	1/2x3x10	1508522
6	2 1/2	96 1/2"	586905	546385	3/4x8x97-1/4	940172	940173	1/2x3x10	1508522

\*Inc. 8 552153 Weld-on bucket teeth  
<sup>2</sup> Required



# Bucket Linkage & Indicator

**MICHIGAN**

No.	Part No.	Qty.	Description
1	24C-840	1	Bolt
2	619029	1	Washer
3	12H-25	1	Fitting grease
4	567060	1	Rod
5	584406	1	Bushing
6	18D-08	1	Nut
7	<sup>3</sup> -----	1	Valve assy leveler
8	106263	1	Spring
9	586433	1	Nut
10	567062	1	Coupling
11	1652990	1	Switch limit
11A	†2509365	1	Bracket
12	103089	1	Nut
12A	†619017	1	Washer
13	567061	1	Rod
14	24C-864	1	Bolt
15	619029	1	Washer
16	584406	1	Bushing
17	584208	1	Level rod
18	10H-35	2	Fitting grease
19	586199	1	Pin mounting
20	24C-888	1	Bolt
21	586452	1	Lockpin
22	28H-11100	1	Lockwire
23	585311	1	Seal
24	585644	1	Bushing
25	584206	1	Spacer
26	10H-25	1	Fitting grease
27	18D-06	1	Nut
28	584715	1	Pin mounting
29	24C-656	1	Bolt
30	4F-08127	1	Pin clevis
31	1F-414	1	Pin cotter
32	<sup>1</sup> 586421	1	Rod assy
33	8D-08	1	Nut
34	10H-25	1	Fitting grease
35	24C-844	1	Bolt
36	616796	1	Washer
37	550646	1	Sleeve
38	526767	1	Bushing
39	585780	1	Pointer arm
40	1305483	1	Ball joint
41	18D-08	1	Nut
42	18D-08	1	Nut
43	<sup>3</sup> -----	1	Bucket assy
44	24C-656	1	Bolt
45	18D-06	1	Nut
46	584715	1	Pin mounting
47	585644	1	Bushing
48	585311	1	Seal
49	28H-11100	1	Lockwire
50	586199	1	Pin mounting
51	18D-08	1	Nut
52	586452	1	Lockpin
53	<sup>2</sup> 586215	1	Link
54	12H-15	1	Fitting grease
55	18D-08	1	Nut
56	10H-25	1	Fitting grease
57	586216	1	Link

<sup>1</sup>Inc. 33, 40

<sup>2</sup>Inc. 24, 47

<sup>3</sup>See Index

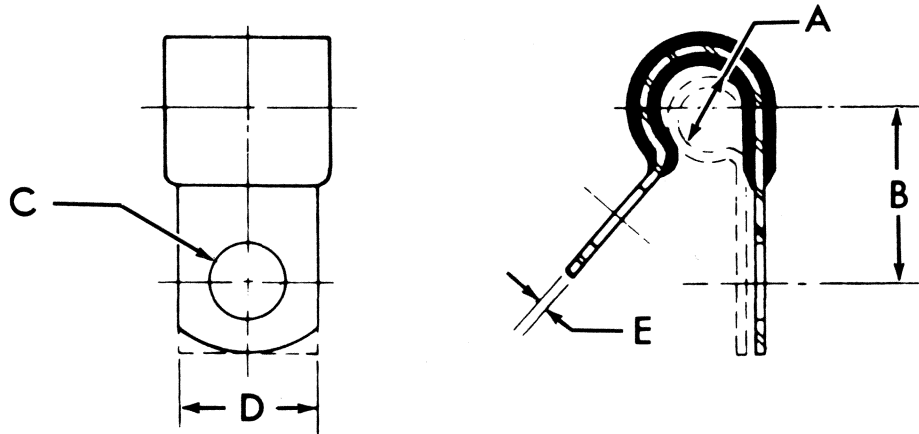


**Group C**

Clips .....C2, C3  
Converter Assembly .....C5  
Cylinder Assembly, Boom .....C8  
Cylinder Assembly, Bucket .....C9  
Cylinder Assembly, Steering .....C10

The following types of clips are used in connection with the various wiring, fuel, air and hydraulic piping systems employed in this unit. When replacing clips identification can be made by checking type and physical dimensions listed to obtain part number.

**Insulated Clip**

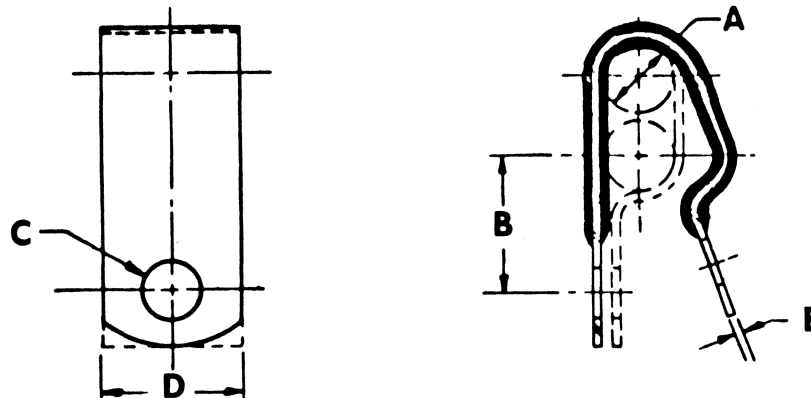


TS-5008

ITEM NO.	PART NUMBER	A		B		C		D		E		F
1	30H-9	$\frac{3}{16}$	20,6	$\frac{1}{32}$	11,9	$\frac{1}{32}$	5,5	$\frac{3}{16}$	11,2	.032	,8	
2	30H-10	$\frac{3}{16}$	20,6	$\frac{1}{2}$	12,7	$\frac{1}{32}$	7,1	$\frac{1}{2}$	12,7	.032	,8	
3	30H-11	$\frac{3}{16}$	20,6	$\frac{3}{16}$	14,3	$\frac{1}{32}$	8,7	$\frac{3}{16}$	15,9	.032	,8	
4	30H-12	$\frac{3}{16}$	20,6	$\frac{5}{16}$	15,9	$\frac{1}{32}$	10,3	$\frac{3}{4}$	19,1	.032	,8	
5	30H-14	$\frac{1}{4}$	6,3	$\frac{1}{32}$	13,5	$\frac{1}{32}$	7,1	$\frac{1}{2}$	12,7	.032	,8	
6	30H-16	$\frac{1}{4}$	6,3	$\frac{2}{32}$	16,7	$\frac{1}{32}$	10,3	$\frac{3}{4}$	19,1	.050	1,3	
7	30H-19	$\frac{3}{16}$	8,3	$\frac{5}{16}$	15,9	$\frac{1}{32}$	8,7	$\frac{3}{16}$	15,9	.032	,8	
8	30H-20	$\frac{3}{16}$	8,3	$\frac{1}{16}$	17,4	$\frac{1}{32}$	10,3	$\frac{3}{4}$	19,1	.032	,8	
9	30H-23	$\frac{3}{8}$	7,9	$\frac{2}{32}$	18,2	$\frac{1}{32}$	10,3	$\frac{3}{4}$	19,1	.032	,8	
10	30H-31	$\frac{1}{2}$	12,7	$\frac{2}{32}$	19,8	$\frac{1}{32}$	10,3	$\frac{3}{4}$	19,1	.048	1,2	
11	30H-35	$\frac{3}{16}$	14,3	$\frac{1}{16}$	20,6	$\frac{1}{32}$	10,3	$\frac{3}{4}$	19,1	.048	1,2	
12	30H-38	$\frac{3}{8}$	15,9	$\frac{2}{32}$	21,4	$\frac{1}{32}$	10,3	$\frac{3}{4}$	19,1	.048	1,2	
13	30H-40	$\frac{3}{8}$	15,9	$\frac{3}{32}$	24,7	$\frac{1}{32}$	13,5	1	25,4	.048	1,2	
14	30H-44	$\frac{1}{16}$	17,4	1	25,4	$\frac{1}{32}$	13,5	1	25,4	.048	1,2	
15	30H-48	$\frac{1}{16}$	20,6	$1\frac{1}{16}$	27,1	$\frac{1}{32}$	13,5	1	25,4	.048	1,2	
16	30H-50	$\frac{1}{16}$	23,8	1	25,4	$\frac{1}{32}$	10,3	$\frac{3}{4}$	19,1	.048	1,2	
17	30H-52	$\frac{1}{16}$	23,8	$1\frac{1}{8}$	28,6	$\frac{1}{32}$	13,5	1	25,4	.048	1,2	



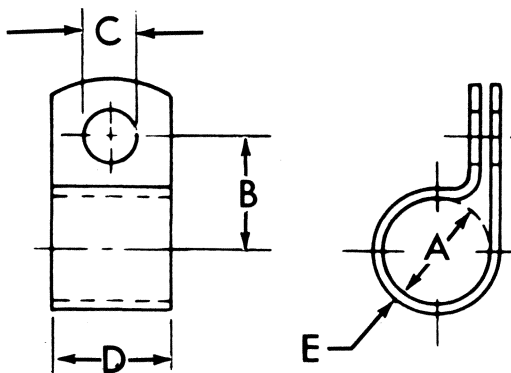
# Insulated Double Clip



TS-7073

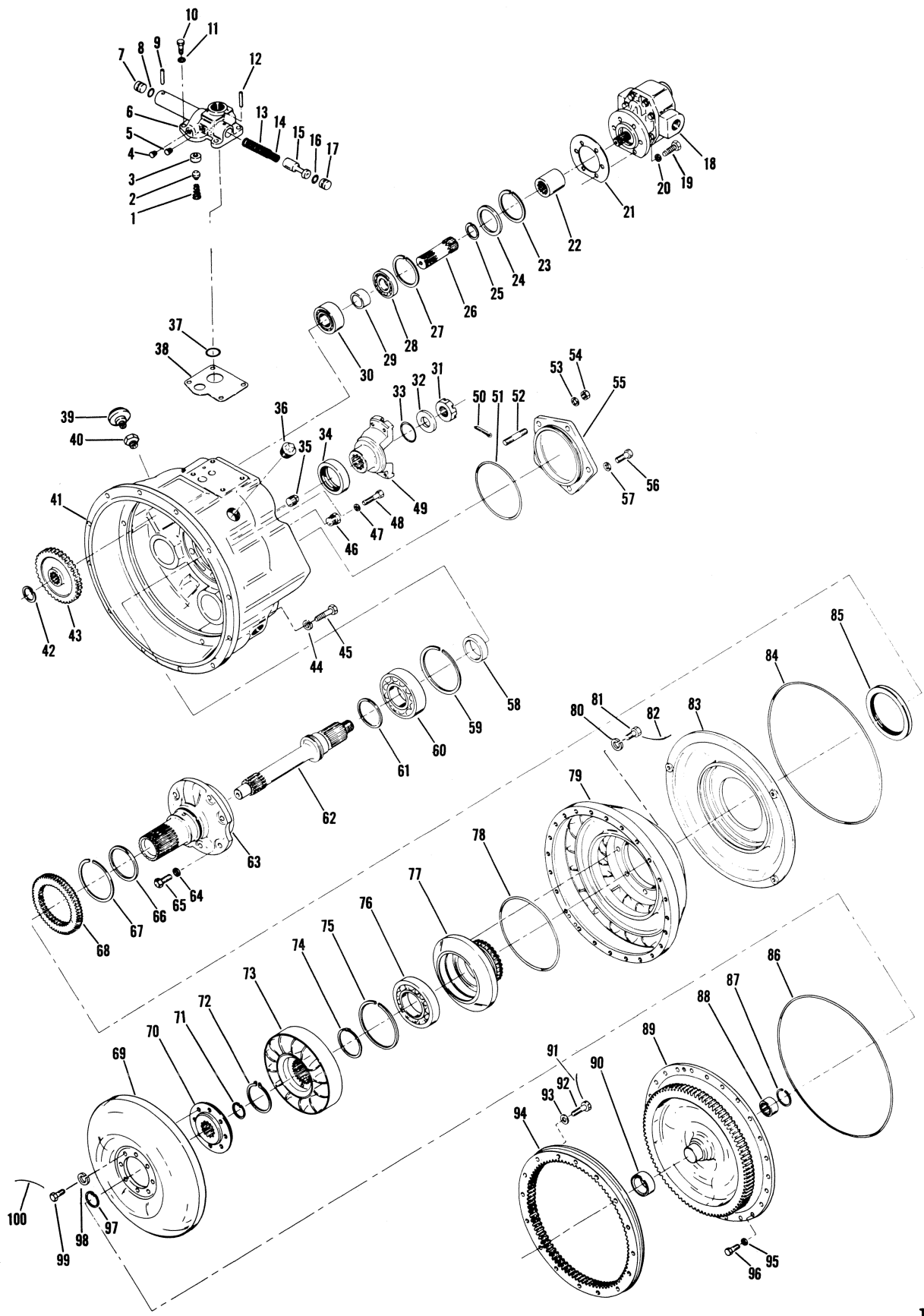
ITEM NO.	PART NUMBER	A	B	C	D	E	F
18	31H-19	$\frac{3}{8}$ 7,9	$\frac{23}{32}$ 18,2	$\frac{13}{32}$ 10,3	$\frac{3}{4}$ 19,1	.050 1,3	

# Closed Clip



TS-5009

ITEM NO.	PART NUMBER	A	B	C	D	E
10	6H-2	$\frac{3}{8}$ 4,8	$\frac{5}{8}$ 15,9	$\frac{13}{32}$ 10,3	$\frac{3}{4}$ 19,1	.032 ,8
11	6H-6	$\frac{1}{4}$ 6,3	$\frac{25}{32}$ 18,2	$\frac{17}{32}$ 13,5	$\frac{7}{8}$ 22,2	.032 ,8
12	6H-16	$\frac{5}{8}$ 15,9	$\frac{13}{16}$ 20,6	$\frac{3}{32}$ 7,1	$\frac{3}{4}$ 19,1	.048 1,2
13	6H-20	1 25,4	$\frac{13}{16}$ 30,2	$\frac{13}{32}$ 10,3	$\frac{7}{8}$ 22,2	.060 1,5



TS-11919

# Converter Assembly

**MICHIGAN**

No.	Part No.	Qty.	Description
A	<sup>1</sup> 284055	1	Converter assy
1	222312	1	Spring
2	222318	1	Plunger
3	214946	1	Seat
4	40K-02	1	Plug
5	40K-02	1	Plug
6	<sup>2</sup> 801548	1	Valve press reg
7	220983	1	Stop
8	25K-30018	1	O-ring
9	660178	1	Pin roll
10	5C-616	4	Bolt
11	5E-05	4	Lockwasher
12	660178	1	Pin roll
13	220982	1	Spring
14	220981	1	Spring
15	801067	1	Piston
16	25K-30018	1	O-ring
17	220983	1	Stop
18	<sup>3</sup> 450229	1	Pump conv charging
19	<sup>4</sup> 233128	3	Bolt
20	<sup>5</sup> -----	3	Lockwasher
21	235961	1	Gasket
22	214961	1	Sleeve
23	2506408	3	Ring snap
24	214929	3	Washer
25	224039	3	Ring snap
26	214928	3	Shaft Pump
27	214954	3	Ring snap
28	214956	3	Bearing
29	214930	3	Spacer
30	214936	3	Bearing
31	201951	1	Nut
32	102745	1	Washer
33	25K-40112	1	O-ring
34	206864	1	Seal
35	16F-08	1	Plug
36	13F-16	1	Plug
37	25K-40104	1	O-ring
38	214949	1	Gasket
39	211433	1	Breather
40	227265	1	Valve check
41	801546	1	Housing
42	711298	3	Ring Snap
43	<sup>6</sup> 214931	3	Gear
44	4E-06	12	Lockwasher
45	23C-620	12	Bolt
46	40K-02	2	Plug
47	4E-06	3	Lockwasher
48	1C-628	3	Bolt
49	214940	1	Flange
50	1F-424	1	Pin cotter
51	25K-40512	1	O-ring
52	214730	2	Stud
53	4E-07	2	Lockwasher
54	8D-07	2	Nut

<sup>1</sup>(C272-90) Inc. 1→38, 41→43, 46→90, 95→100.)

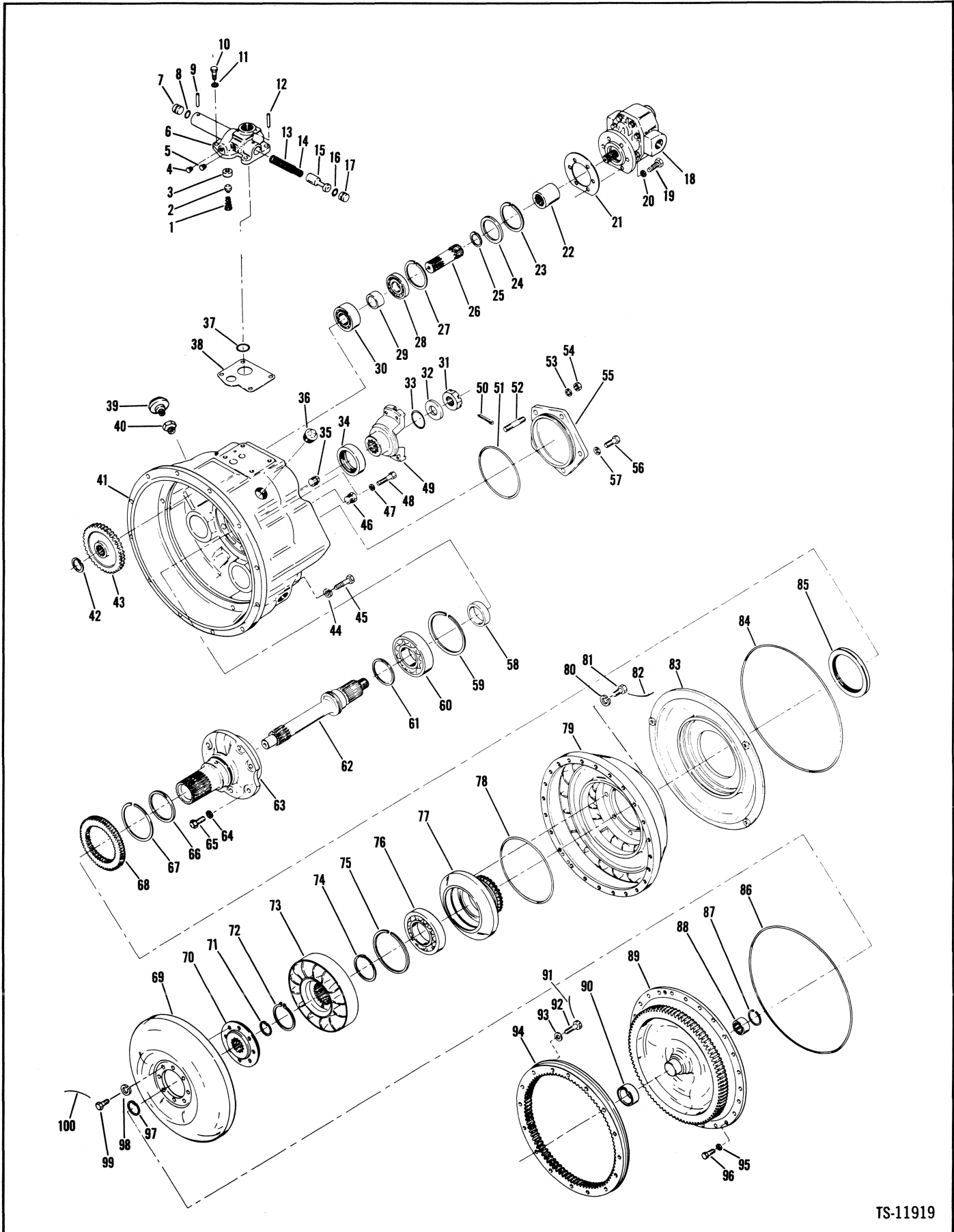
<sup>2</sup>Inc. 7, 8, 9, 12→17

<sup>3</sup>When converter charging pump replacement is required, only a new factory built and tested pump should be used. Proper operation of converter and transmission is dependent on an efficient charging pump. Damage possible by use of a field rebuilt pump can result in repair costs exceeding cost of a new pump alone.

<sup>4</sup>Inc. 20

<sup>5</sup>See 19

<sup>6</sup>(39T)



TS-11919

# Converter Assembly (Cont.)

**MICHIGAN**

No.	Part No.	Qty.	Description
55	214979	1	Cover
56	1C-720	3	Bolt
57	4E-07	3	Lockwasher
58	214984	1	Spacer
59	214953	1	Ring snap
60	231554	1	Bearing
61	222079	1	Ring
62	214983	1	Shaft turbine
63	214932	1	Stator support
64	7E-08	6	Lockwasher
65	1C-820	6	Bolt
66	221653	1	Ring piston
67	224009	1	Ring snap
68	214951	1	Gear
69	222684	1	Turbine
70	214924	1	Hub turbine
71	659065	1	Ring snap
72	743035	1	Ring snap
73	229565	1	Reaction member
74	229566	1	Spacer
75	214953	1	Ring snap
76	214596	1	Bearing
77	214923	1	Hub impeller
78	60K-40616	1	O-ring
79	214920	1	Impeller
80	25E-19	8	Lockwasher
81	4C-714	8	Bolt
82	‡ <sup>11</sup> -----	—	Lockwire
83	801818	1	Baffle
84	214939	1	O-ring
85	214941	1	Seal
86	232535	1	O-ring
87	666542	1	Ring snap
88	214988	1	Bearing
89	801524	1	Cover impeller
90	222006	1	Sleeve
91	<sup>10</sup> -----	8	Lockwire
92	233092	16	Bolt
93	215909	16	Washer
94	233089	1	Gear
95	§ <sup>8</sup> -----	24	Lockwasher
96	<sup>9</sup> 233128	24	Bolt
97	659065	1	Ring Snap
98	619023	8	Washer
99	209313	8	Bolt
100	‡ <sup>11</sup> -----	—	Lockwire

<sup>7</sup>(41T)

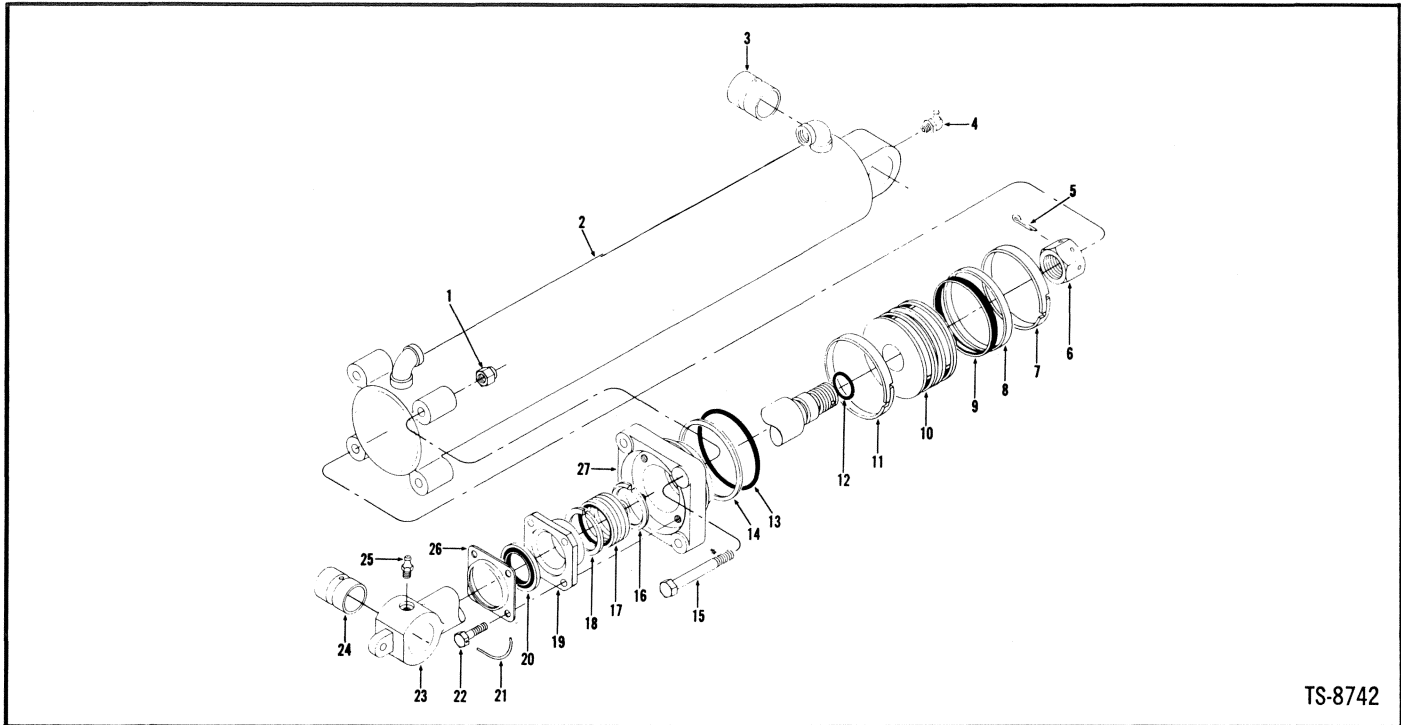
<sup>8</sup>See 96

<sup>9</sup>Inc. 95

<sup>10</sup>14 ga. x 16" lg.

<sup>11</sup>18 ga.

# Cylinder Assembly, Boom – 6" (152.4 mm)



TS-8742

No.	Part No.	Qty.	Description
A	<sup>1</sup> 1504471	1	Cylinder assy
1	<sup>1</sup> 18D-10	4	Nut
2	<sup>2</sup> 586146	1	Cylinder
3	531584	1	Bushing
4	11H-15	1	Fitting grease
5	1F-1068	1	Pin cotter
6	1514650	1	Nut
7	1503013	1	Wear Ring
8	1502845	1	Outer Ring
9	1503467	1	Inner Ring
10	1502846	1	Piston
11	1503013	1	Wear ring
12	25K-60120	1	O-ring
13	58K-433	1	O-ring
14	73K-433	1	Ring back-up
15	24C-1088	4	Bolt
16	<sup>6</sup> -----	2	Male adapter
17	<sup>5</sup> 2501108	1	Packing
18	<sup>6</sup> -----	2	Female adapter
19	527812	1	Gland
20	550450	1	Seal
21	<sup>3</sup> -----	2	Lockwire
22	3C-818	4	Bolt
23	<sup>4</sup> 586149	1	Rod
24	531584	1	Bushing
25	10H-35	1	Fitting grease
26	522617	1	Retainer
27	945115	1	Cap

<sup>1</sup>Inc. 1 → 3, 5 → 24, 26, 27.

<sup>2</sup>Inc. 3

<sup>3</sup>16 ga. x 13" lg.

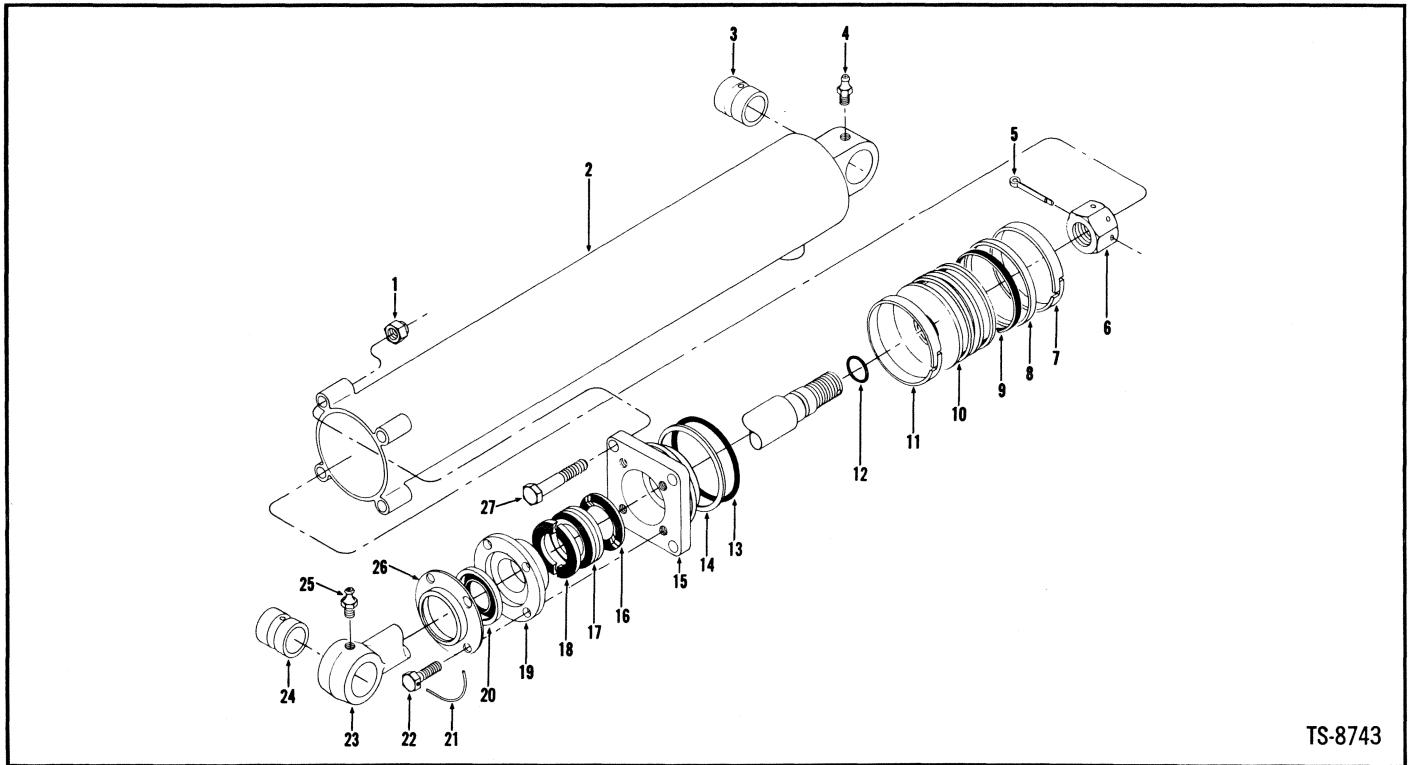
<sup>4</sup>Inc. 24.

<sup>5</sup>Inc. 16, 18

<sup>6</sup>See 17

# Cylinder Assembly, Bucket – 5" (122.7 mm)

**MICHIGAN**



TS-8743

No.	Part No.	Qty.	Description
A	1504470	1	Cylinder assy
1	18D-08	4	Nut
2	586152	1	Cylinder
3	586435	1	Bushing
4	10H-25	1	Fitting grease
5	1F-860	1	Pin cotter
6	1514622	1	Nut
7	1536234	1	Wear ring
8	1536235	1	Outer ring
9	1503465	1	Inner ring
10	1503597	1	Piston
11	1536234	1	Wear ring
12	25K-40112	1	O-ring
13	58K-248	1	O-ring
14	73K-248	1	Ring back-up
15	945120	1	Cap
16	6-----	2	Male adapter
17	2501107	1	Packing
18	6-----	2	Female adapter
19	550087	1	Gland
20	587250	1	Seal
21	3-----	2	Lockwire
22	4C-616	4	Bolt
23	586155	1	Rod
24	586435	1	Bushing
25	10H-25	1	Fitting grease
26	550089	1	Retainer
27	24C-856	4	Bolt

<sup>1</sup>Incl. 1→3, 5→24, 26, 27.

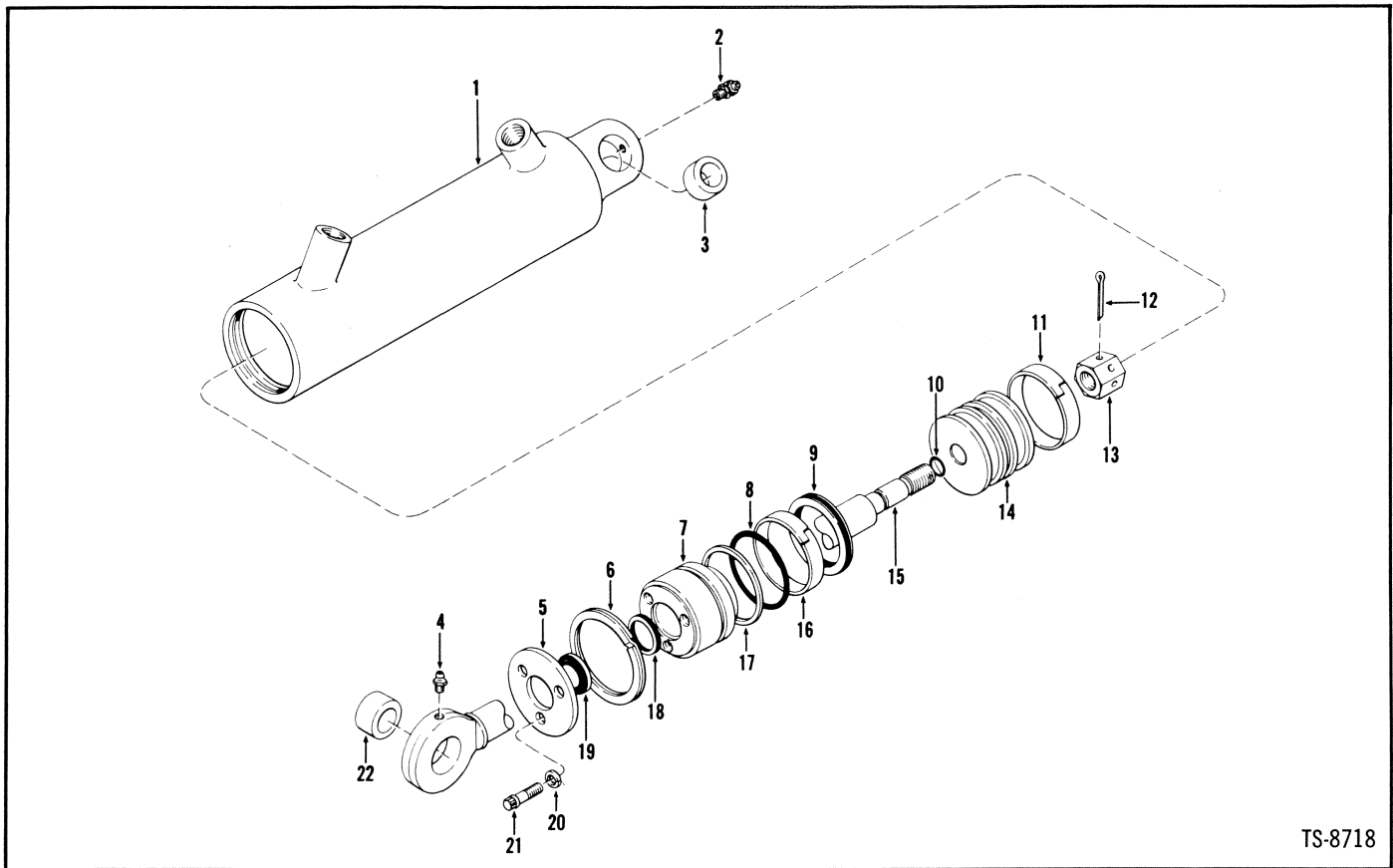
<sup>2</sup>Incl. 3

<sup>3</sup>16 ga. x 13" lg.

<sup>4</sup>Incl. 24

<sup>5</sup>Incl. 16, 18

<sup>6</sup>See 17



TS-8718

No.	Part No.	Qty.	Description
A	<sup>1</sup> 1524562	1	Cylinder assy – R.H.
B	<sup>2</sup> 1524563	1	Cylinder assy – L.H.
1	1503574	1	Cylinder – R.H.
1A	1503573	1	Cylinder – L.H.
2	11H-25	1	Fitting grease
3	763451	1	Bushing
4	10H-35	1	Fitting grease
5	1503567	1	Retainer
6	2506408	1	Ring snap
7	1503570	1	Cap
8	58K-228	1	O-ring
9	1524560	1	Seal ring
10	25K-20016	1	O-ring
11	1503572	1	Wear ring
12	1F-424	1	Pin cotter
13	523325	1	Nut
14	1503568	1	Piston
15	545155	1	Rod
16	1503572	1	Wear ring
17	532948	1	Ring back-up
18	713285	1	Seal
19	1522535	1	Wiper
20	22E-05	3	Lockwasher
21	93G-514	3	Bolt
22	763451	1	Bushing

<sup>1</sup>(Inc. 1→22)

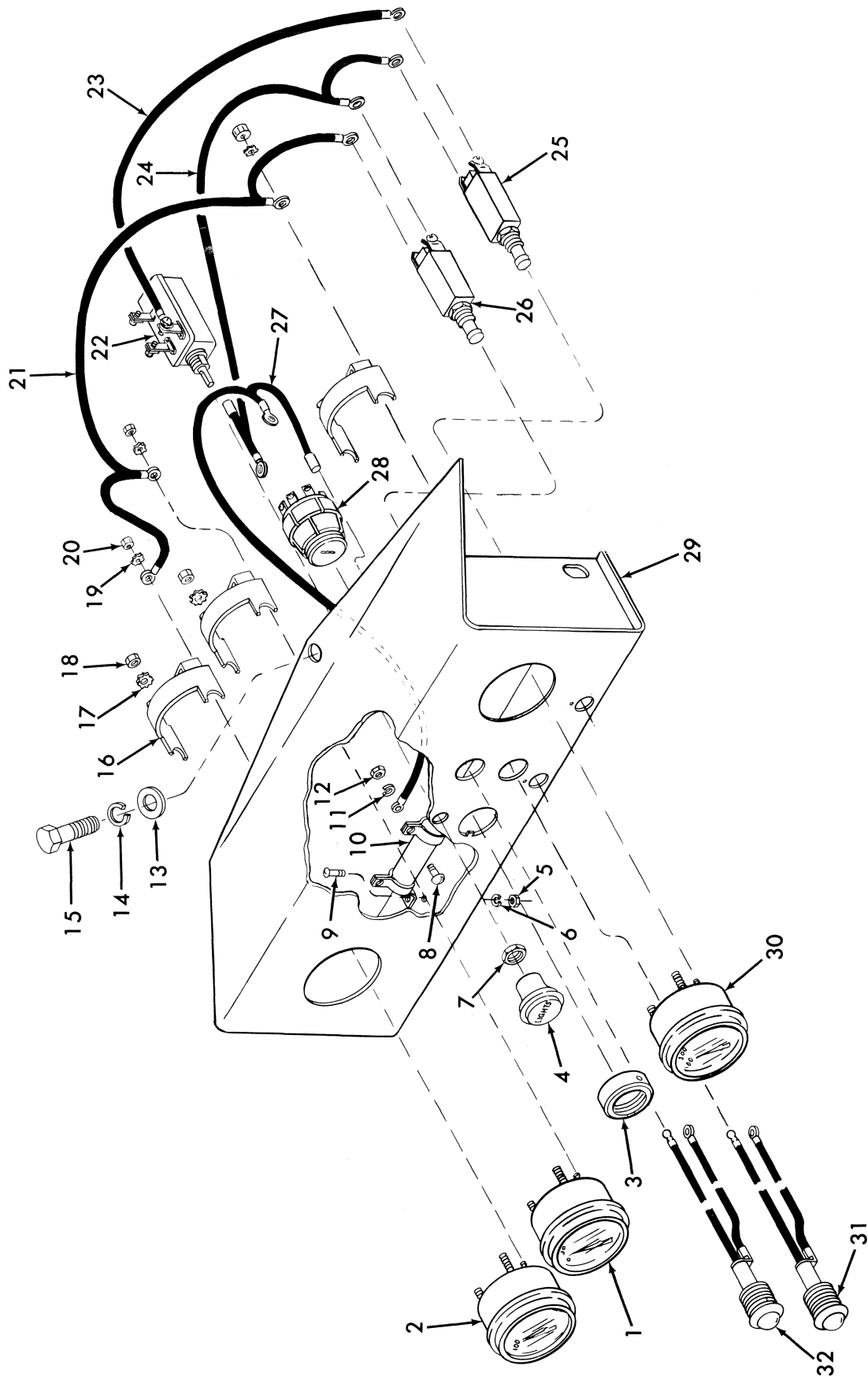
<sup>2</sup>(Inc. 1A→22)

Two (2) Cylinders used on machine. Quantities listed are for one (1) Cylinder.



**Group E**

Electrical Gauges & Instrument Panel .....E3  
Electrical System .....E5  
Electrical Wiring & Battery Cables .....E9  
Electrical Wiring Color Code .....E11  
Engine Accessories .....E12  
Engine Air Cleaner Assembly .....E13  
Engine Air Cleaner & Exhaust System .....E15  
Engine Controls .....E16



# Electrical Gauges & Instrument Panel

**MICHIGAN**

No.	Part No.	Qty.	Description
1	947250	1	Gauge air pressure
2	947252	1	Gauge engine temp
3	<sup>3</sup> -----	1	Nut
4	<sup>5</sup> -----	1	Knob
5	12D-06	2	Nut
6	17E-6	2	Lockwasher
7	<sup>5</sup> -----	1	Nut
8	85G-608	2	Screw
9	85G-608	2	Screw
10	556489	1	Resistor
11	17E-6	2	Lockwasher
12	12D-06	2	Nut
13	103293	3	Washer
14	4E-06	3	Lockwasher
15	24C-612	3	Bolt
16	1534136	3	Clamp
17	12E-10	6	Lockwasher
18	14D-10	6	Nut
19	12E-6	6	Lockwasher
20	12D-6	6	Nut
21	1518718	1	Wire assy
22	<sup>6</sup> 1513544	1	Switch light
23	1518716	1	Wire
24	1518719	1	Wire assy
25	1513548	1	Breaker circuit
26	1513546	1	Breaker circuit
27	1518715	1	Wire assy
28	<sup>4</sup> 1515065	1	Switch ignition
29	1516408	1	Inst panel
30	947254	1	Gauge converter temp
31	<sup>1</sup> 1504956	1	Light warning
31A	†943219	1	Bulb
32	<sup>2</sup> 1504957	1	Light warning
32A	†943219	1	Bulb

<sup>1</sup>Inc. 31A

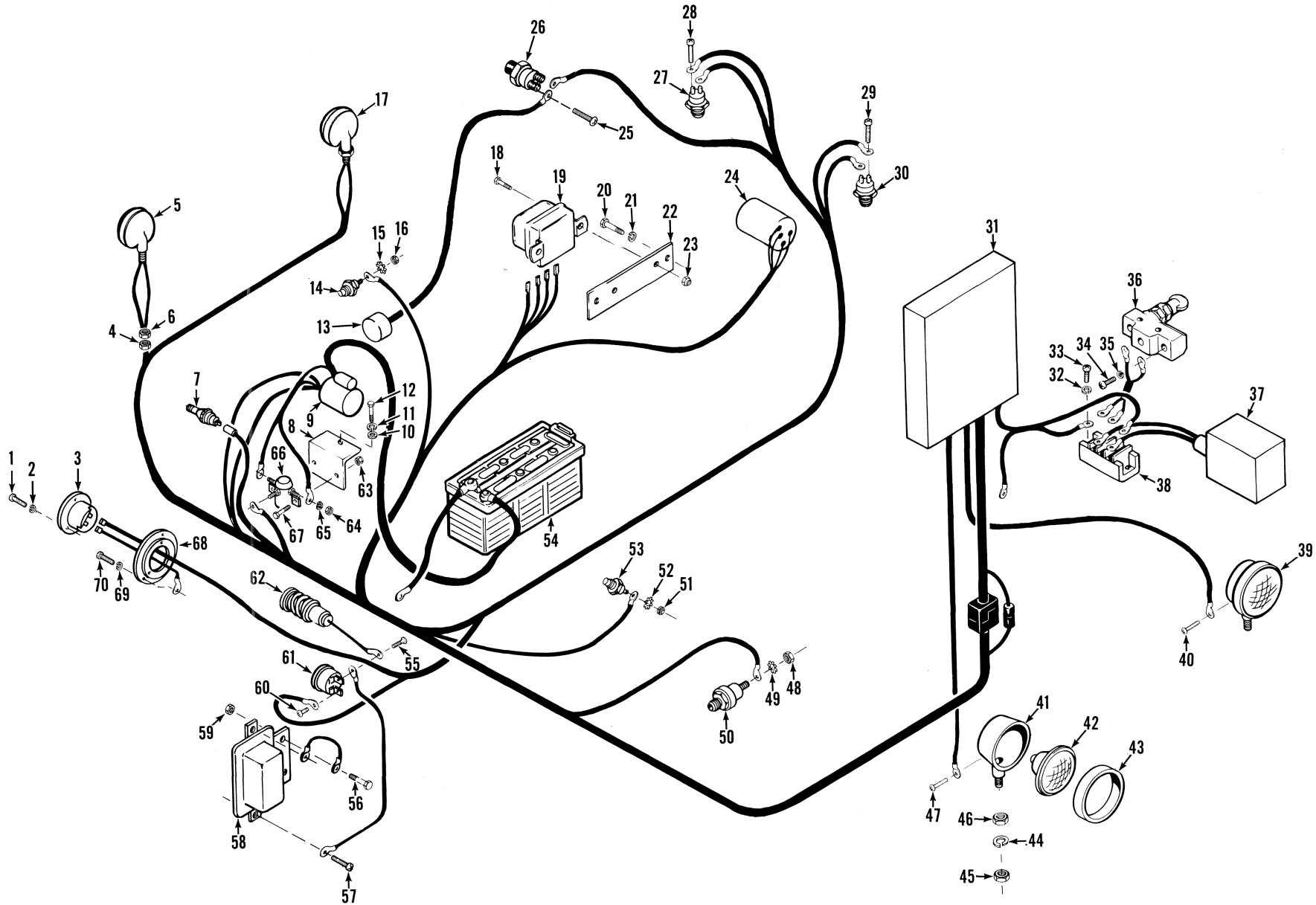
<sup>2</sup>Inc. 32A

<sup>3</sup>See 28

<sup>4</sup>Inc. 3

<sup>5</sup>See 22

<sup>6</sup>Inc. 4, 7



# Electrical System

**MICHIGAN**

No.	Part No.	Qty.	Description
1	85G-608	3	Screw
2	12E-6	3	Lockwasher
3	<sup>2</sup> 1743825	1	Hourmeter
4	17D-1	2	Nut
5	5203855	1	Light stop & tail
6	17D-1	2	Nut
7	548713	1	Sender eng oil press
8	1537934	1	Bracket
9	<sup>1</sup> _____	1	Starter
10	656672	2	Washer
11	4E-06	2	Lockwasher
12	23C-620	2	Bolt
13	<sup>3</sup> _____	1	Glow plug
14	551323	1	Sender eng temp
15	12E-10	1	Lockwasher
16	14D-10	1	Nut
17	5203855	1	Light stop & tail
18	24C-512	2	Bolt
19	947007	1	Regulator voltage
19A	<sup>†</sup> 893379	1	Shock mount kit
20	23C-612	2	Bolt
21	4E-06	2	Lockwasher
22	1545624	1	Plate
23	18D-04	2	Nut
24	<sup>1</sup> _____	1	Alternator
25	_____	—	Omit
26	<sup>4</sup> 600259	1	Button glow plug
26A	857420	1	Boot
27	<sup>5</sup> 636260	1	Switch stop light
28	85G-1004	2	Screw
29	_____	—	Omit
30	<sup>1</sup> _____	1	Switch neutral start
31	<sup>1</sup> _____	1	Inst panel
32	17E-10	3	Lockwasher
33	86G-1012	3	Screw
34	86G-1012	2	Screw

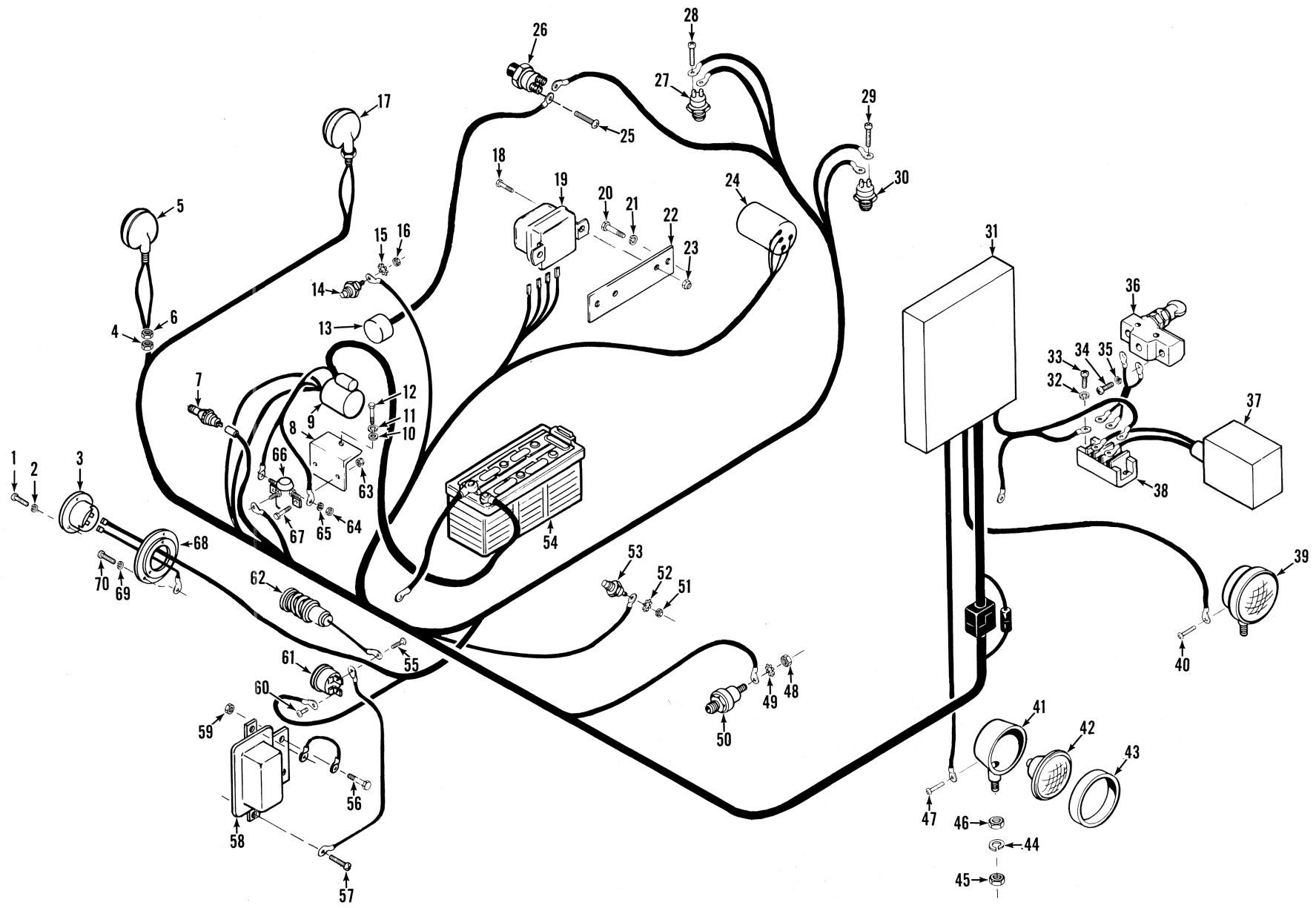
<sup>1</sup>See Index

<sup>2</sup>Inc. 1, 2

<sup>3</sup>See Engine Parts Manual

<sup>4</sup>Inc. 26A

<sup>5</sup>Inc. 28



# Electrical System

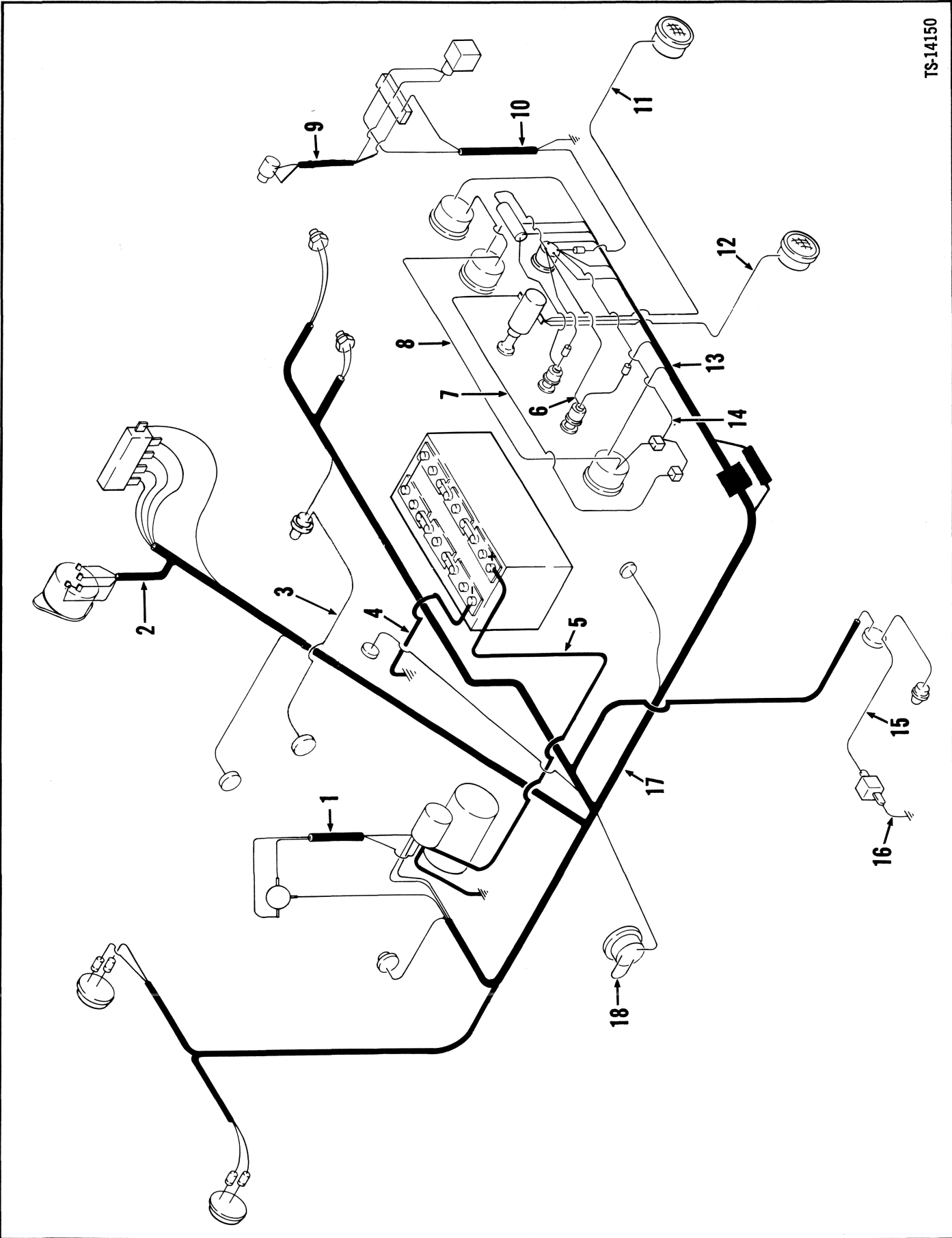
**MICHIGAN**

No.	Part No.	Qty.	Description
35	17E-10	2	Lockwasher
36	1652990	1	Switch limit
37	1516366	1	Solenoid
38	1516644	1	Terminal block
39	6547529	2	Headlight assy
40	953310	1	Screw
40A	†15E-8	1	Lockwasher
41	§7-----	2	Housing light
42	944907	2	Sealed unit
43	946389	2	Retainer headlight
44	7E-08	2	Lockwasher
45	7D-08	2	Nut
46	7D-08	2	Nut
47	953310	1	Screw
47A	†15E-8	1	Lockwasher
48	14D-10	1	Nut
49	12E-10	1	Lockwasher
50	1534135	1	Sender air press
51	14D-10	1	Nut
52	12E-10	1	Lockwasher
53	551323	1	Sender conv temp
54	1310120	1	Battery
54A	†1522983	1	Battery holddown
54B	†1523305	2	Bolt
54C	†17D-2	2	Nut
55	85G-804	1	Screw
56	24C-412	2	Bolt
57	85G-805	2	Screw
58	515763	1	Buzzer brake
58A	†2510849	1	Bracket
58B	†24C-412	2	Bolt
58C	†18D-04	2	Nut
59	18D-04	2	Nut
60	85G-804	1	Screw
61	81537354	1	Switch pressure
62	1548542	1	Light brake warning
62A	†1548521	1	Bulb
63	18D-04	2	Nut
64	62D-05	2	Nut
65	23E-05	2	Lockwasher
66	551530	1	Solenoid
67	24C-412	2	Bolt
68	551251	1	Dampener vibration
69	13E-6	3	Lockwasher
70	85G-608	3	Screw

6Inc. 40→43

7See 39

8Inc. 55, 60

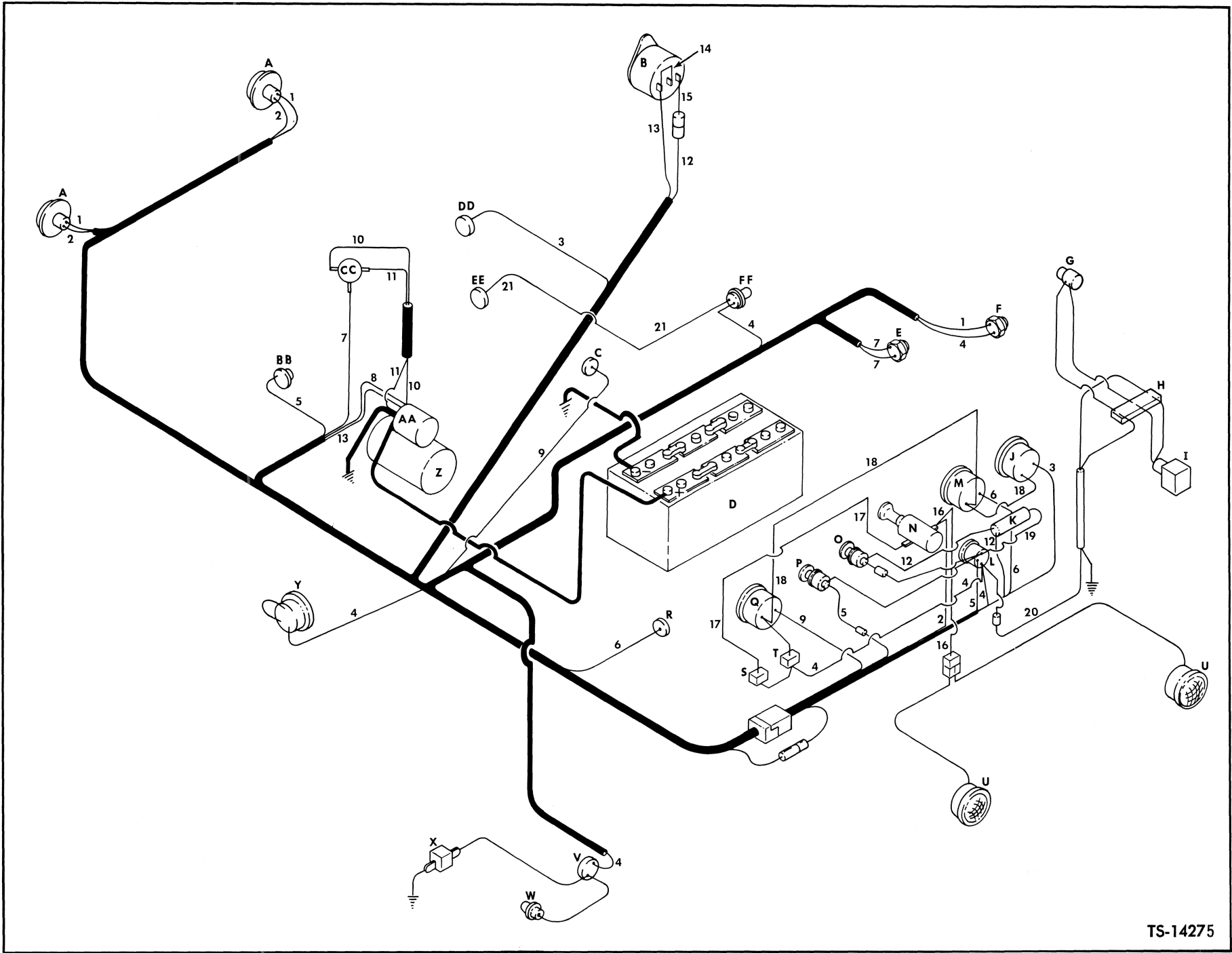




# Electrical Wiring & Battery Cables

**MICHIGAN**

No.	Part No.	Qty.	Description
1	1518717	1	Harness wiring
2	2513067	1	Harness wiring
3	522900	1	Wire
4	1538615	1	Cable
5	1538614	1	Cable
6	1518715	1	Wire assy
7	1518716	1	Wire assy
8	1518718	1	Wire assy
9	1516630	1	Harness wiring
10	1518714	1	Harness wiring
11	1516412	1	Wire assy
12	1516412	1	Wire assy
13	1516409	1	Harness inst panel
14	1518719	1	Wire assy
15	663579	1	Wire assy
16	543483	1	Wire assy
17	2510432	1	Harness main wiring
18	558960	1	Wire assy



Ref. No.	Color	Color Code
1.	Tan	Stoplights to Brake Light Switch
2.	Yellow	Tail Lights to Light Switch
3.	Brown	Engine Temp. Sender to Engine Temp. Gauge
4.	Red & White	Ignition Switch to Hourmeter, Switches & Circuit Breakers
5.	Dark Green	Engine Oil Press. Sender to Engine Oil Press. Warning Light
6.	Light Green	Air Press. Sender to Air Press. Gauge
7.	White	Ignition Switch to Neutral Start Switch to Solenoid
8.	Red #10	Ignition Switch to Starter Solenoid
9.	Grey	Converter Temp. Sender to Converter Temp. Gauge
10.	Black	Solenoid to Starter Solenoid
11.	Black	Solenoid to Starter
12.	Purple & White	Connector to Resistor to Alternator Warning Light (Joins Ref. No. 15 White)
13.	Red & Black #10	Starter to Splice (Ref. No. 8 Red #10) to Alternator Bat. Terminal
14.	Red	Alternator #2 Terminal to Bat. Terminal
15.	White	Alternator #1 Terminal to Connector (Joins Ref. No. 12 Purple & White)
16.	Pink	Light Switch to Headlamps
17.	Violet	Light Switch to 10 Amp. Circuit Breaker
18.	Purple	1 Amp. Circuit Breaker to Gauges
19.	Red & White	Ignition Switch to Resistor
20.	Optional	Ignition Switch to Leveler Terminal Block
21.	Black	Glow Plug Switch to Glow Plug

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A — Stop & Tail Lights  
 B — Alternator  
 C — Converter Temp. Sender  
 D — Battery  
 E — Neutral Start Switch  
 F — Brake Light Switch  
 G — Leveler Micro Switch  
 H — Leveler Terminal Block  
 I — Leveler Solenoid Valve  
 J — Engine Temp. Gauge  
 K — Resistor

L — Ignition Switch  
 M — Air Press. Gauge  
 N — Light Switch  
 O — Alternator Warning Light  
 P — Engine Oil Press. Warning Light  
 Q — Converter Temp. Gauge  
 R — Air Press. Sender  
 S — 10 Amp. Circuit Breaker  
 T — 1 Amp. Circuit Breaker  
 U — Headlamps  
 V — Low Air Press. Sender

W — Brake Warning Light  
 X — Buzzer  
 Y — Hourmeter  
 Z — Starter  
 AA — Starter Solenoid  
 BB — Engine Oil Press. Sender  
 CC — Solenoid  
 DD — Engine Temp. Sender  
 EE — Glow Plug  
 FF — Glow Plug Switch



## Engine & Accessories

All orders for engine assembly or components thereof should be placed with the nearest Perkins Diesel Distributor. To obtain proper items, it is necessary to provide your engine model, serial number and necessary group type number for the equipment required. This data is stamped on the options and accessories plate on the rocker cover of engine.

No.	Part No.	Qty.	Description
1	*2_____	1	Alternator
2	*3_____	1	Starter
3	540306	1	Governor
4	*4_____	1	Air compressor
5	*5_____	1	Oil filter
6	*31258122	1	Fan
7	*2614087	1	Belt fan
8	*2614087	1	Belt alternator
9	*6_____	1	Fuel filter (secondary)
10	*7_____	1	Fuel filter (primary)

<sup>2</sup>Delco 1100583; Perkins NA 001904

<sup>3</sup>Delco 1113644; Perkins NA 003702

<sup>4</sup>Perkins NA 003621

<sup>5</sup>Perkins 2510415

<sup>6</sup>Perkins 2656815

<sup>7</sup>Perkins 2656088

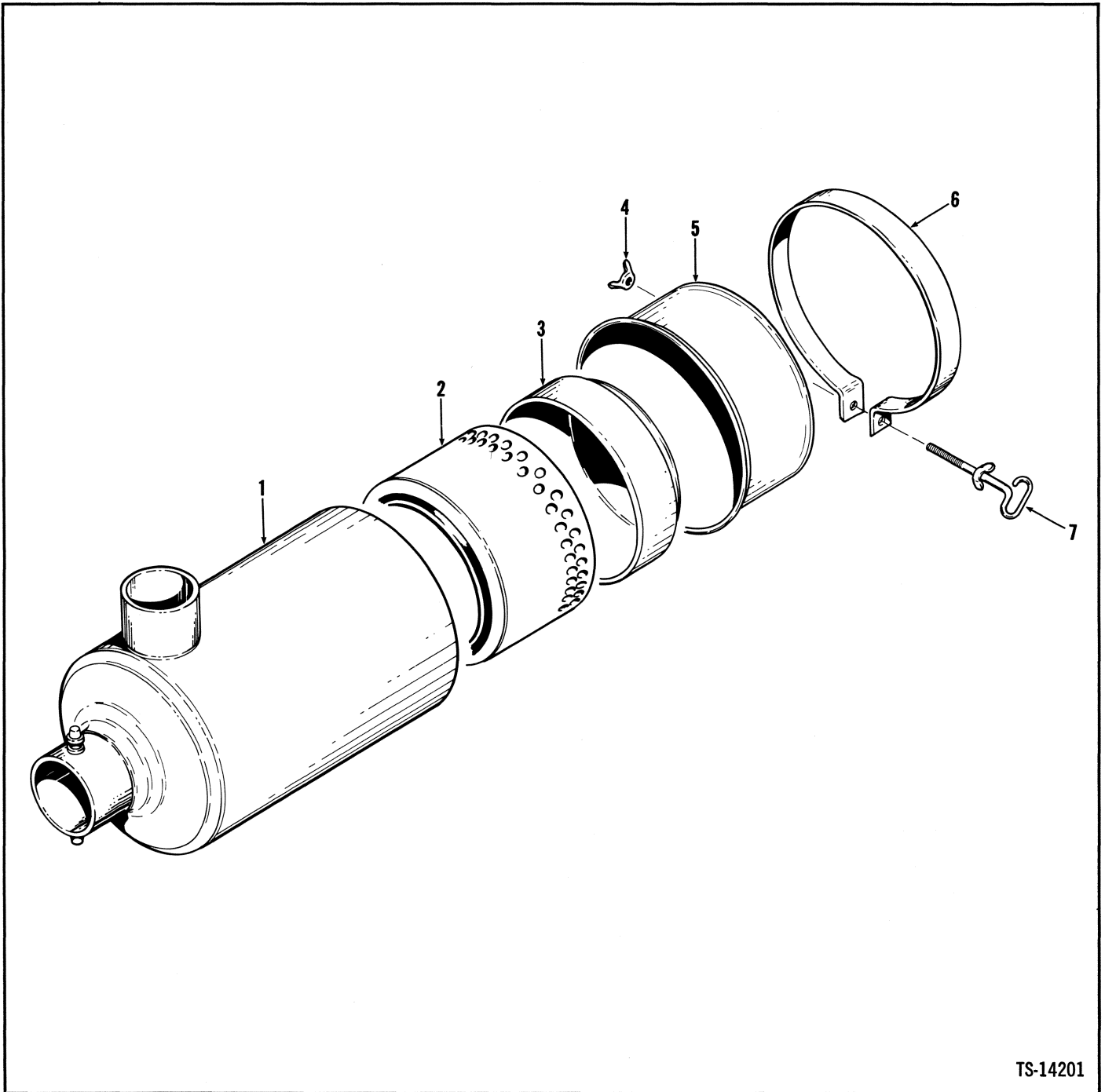
## Engine & Hydraulic System – Filter Replacement Elements

No.	Part No.	Qty.	Description
1	1990272	1	Engine air cleaner
2	961048	2	Engine fuel filter
3	6511766	1	Engine oil filter
4	957577	1	Hyd oil steering
5	957577	1	Hyd oil transm conv

\*Note: The above listed accessory items are furnished by the engine manufacturer. Specifications on these items are subject to change without notice. It is, therefore, recommended that complete model, specifications and serial number of the engine be provided to your Perkins Engine Distributor when ordering these parts.

# Engine Air Cleaner Assembly

**MICHIGAN**

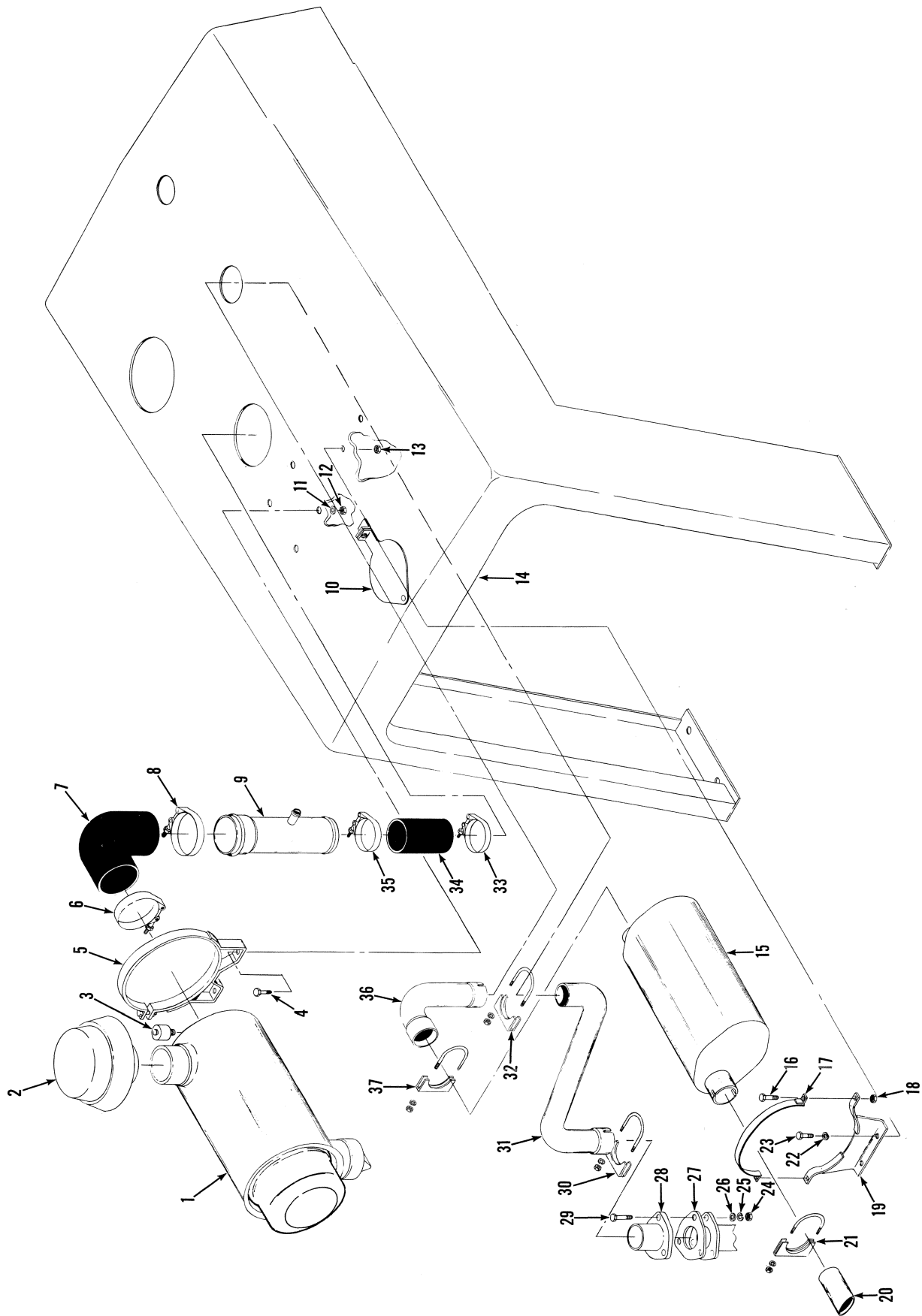


TS-14201

No.	Part No.	Qty.	Description
1	<sup>2</sup> 1902351	1	Air cleaner assy
2	1990272	1	Element
3	891328	1	Baffle
4	3292703	1	Wing nut
5	990215	1	Cup
6	<sup>3</sup> 886570	1	Strap
7	-----	1	Bolt

<sup>2</sup>Incl. 1-7

<sup>3</sup>Incl. 7



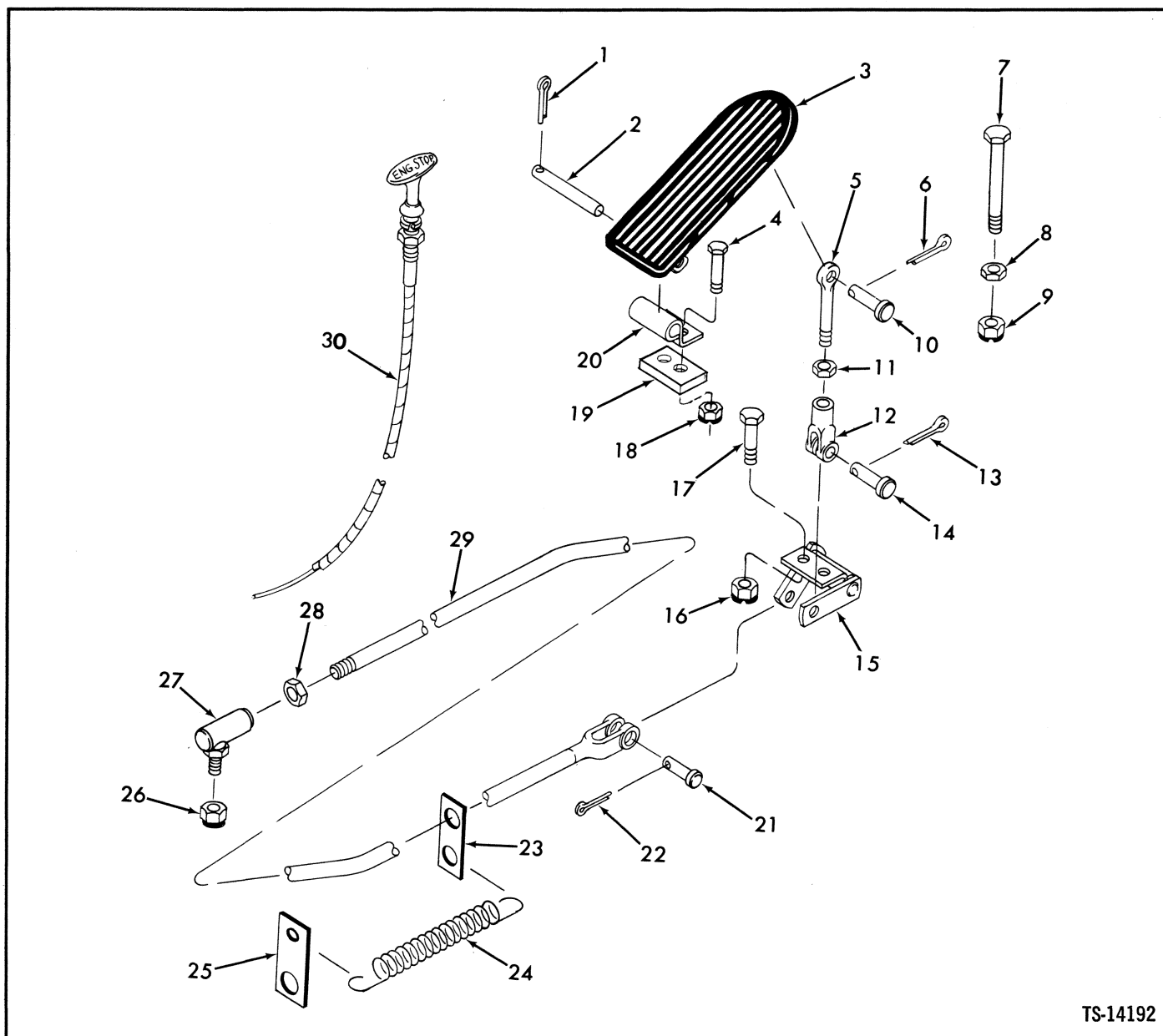
# Engine Air Cleaner & Exhaust System



No.	Part No.	Qty.	Description
1	<sup>1</sup> _____	1	Air cleaner assy
2	1902214	1	Cap
3	1529625	1	Indicator
4	24C-512	4	Bolt
5	551660	2	Strap mounting
6	545153	1	Clamp
7	1520730	1	Hose
8	545153	1	Clamp
9	2510447	1	Tube
10	<sup>2</sup> 1544448	1	Cap
10A	†1H-508	1	Rivet
11	25E-16	4	Washer
12	18D-05	4	Nut
13	18D-06	2	Nut
14	<sup>1</sup> _____	1	Hood
15	2501803	1	Muffler
16	23C-624	2	Bolt
17	1510507	1	Strap mounting
18	15D-06	4	Nut
19	1510520	1	Bracket
20	1538125	1	Tailpipe
21	660738	1	Clamp assy
22	25E-18	2	Washer
23	24C-616	2	Bolt
24	61D-06	3	Nut
25	4E-06	3	Lockwasher
26	25E-17	3	Washer
27	567258	1	Gasket
28	2510445	1	Adapter
29	23C-628	3	Bolt
30	507068	1	Clamp
31	2510448	1	Tube
32	507068	1	Clamp
33	540106	1	Clamp
34	1M-20040	1	Hose
35	540106	1	Clamp
36	2510449	1	Tube
37	660738	1	Clamp

<sup>1</sup>See Index

<sup>2</sup>Inc. 10A



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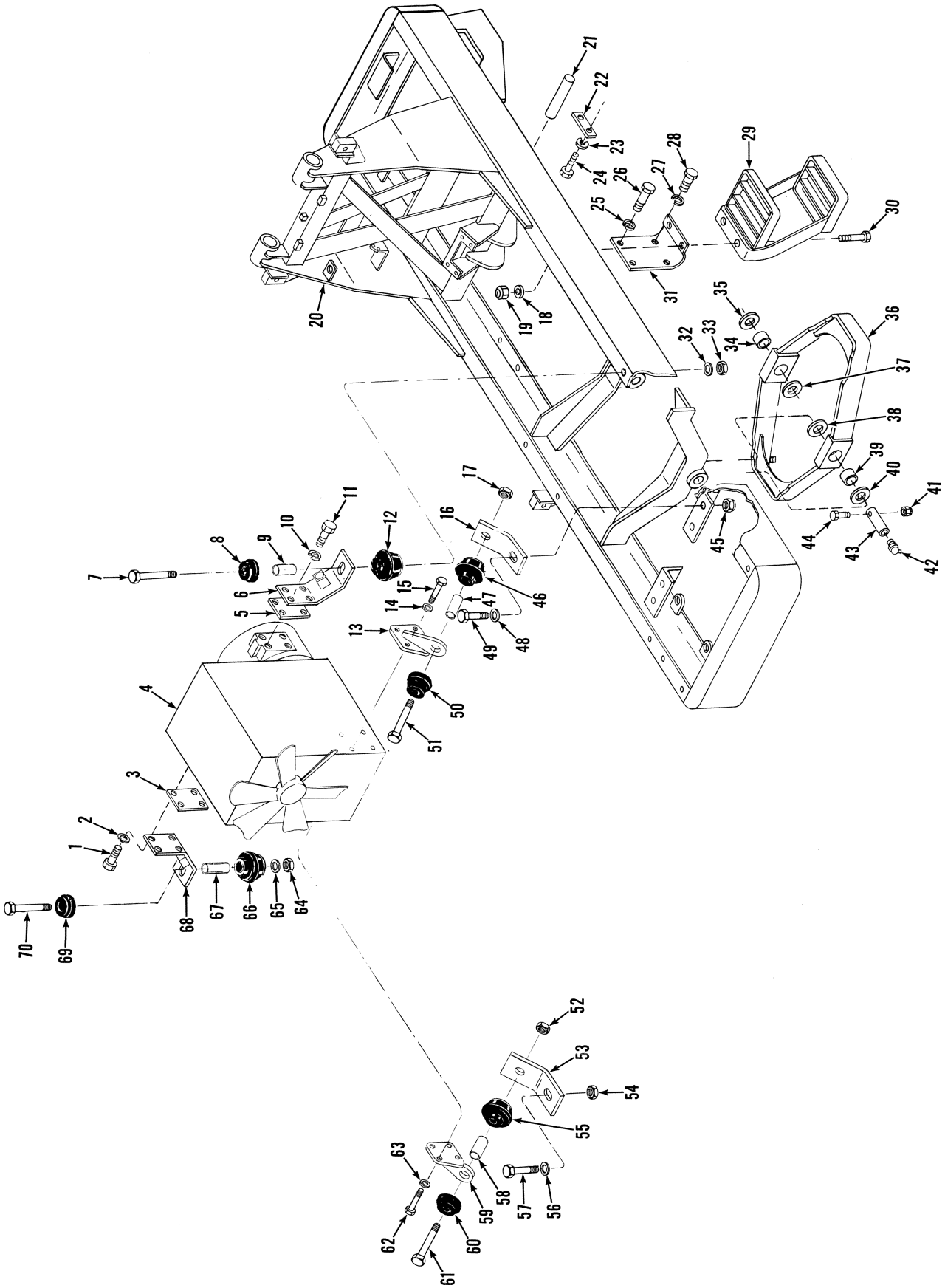
No.	Part No.	Qty.	Description
1	1F-316	1	Pin cotter
2	623762	1	Pin
3	623829	1	Pedal accelerator
4	24C-416	2	Bolt
5	550619	1	Rod
6	1F-207	1	Pin cotter
7	24C-444	1	Bolt
8	8D-04	1	Nut
9	18D-04	1	Nut
10	4F-04051	1	Pin clevis
11	8D-04	1	Nut
12	2I-4200	1	Clevis
13	1F-207	1	Pin cotter
14	4F-04051	1	Pin clevis
15	1527784	1	Bellcrank assy

No.	Part No.	Qty.	Description
16	18D-04	2	Nut
17	24C-412	2	Bolt
18	18D-04	2	Nut
19	572556	1	Spacer
20	1544695	1	Bracket
21	4F-05062	1	Pin clevis
22	1F-308	1	Pin cotter
23	2511673	1	Guide
24	551090	1	Spring
25	2510390	1	Bracket
26	18D-04	1	Nut
27	1306167	1	Ball joint
28	8D-04	1	Nut
29	2511668	1	Rod
30	1520193	1	Cable



**Group F**

Frame Assembly .....F3  
Fuel Tank & Lines .....F4



# Frame Assembly

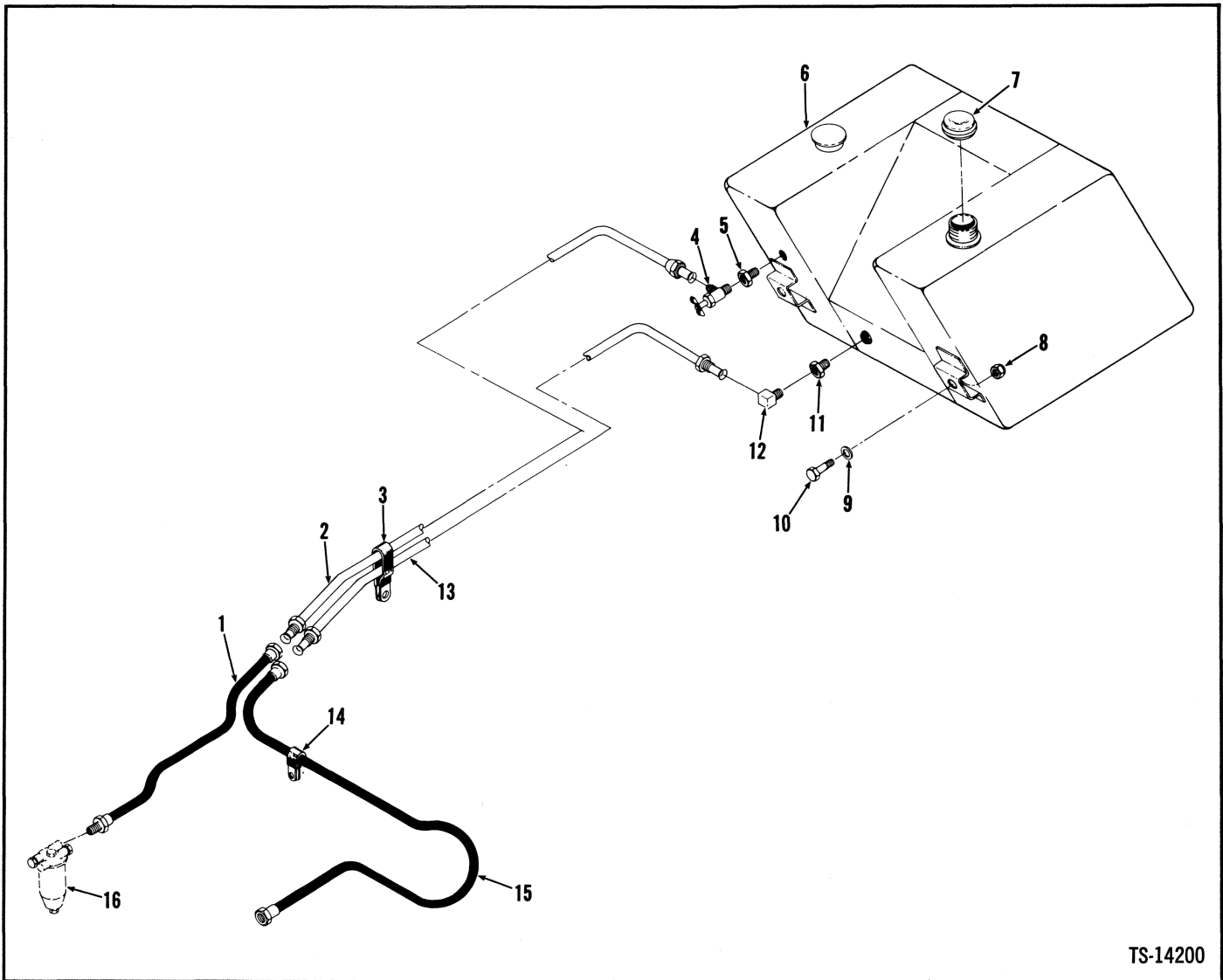
**MICHIGAN**

No.	Part No.	Qty.	Description
1	23C-840	4	Bolt
2	4E-08	4	Lockwasher
3	2511620	1	Rectangular flat
4	<sup>2</sup> _____	1	Engine
5	2511620	1	Rectangular flat
6	2511665	1	Engine mount
7	24C-864	1	Bolt
8	567416	1	Dampener vibration
9	652480	1	Sleeve
10	4E-08	4	Lockwasher
11	23C-840	4	Bolt
12	567415	1	Dampener vibration
13	1516608	1	Engine mount RH
14	4E-07	4	Lockwasher
15	24C-720	4	Bolt
16	1516606	1	Bracket
17	18D-08	1	Nut
18	71D-08	4	Base
19	70D-08	4	Nut
20	2510427	1	Frame
21	1517209	1	Pin
22	1507920	1	Lockplate
23	4E-08	2	Lockwasher
24	24C-820	2	Bolt
25	4E-12	2	Lockwasher
26	23C-1228	2	Bolt top RH
27	4E-12	6	Lockwasher
28	23C-1220	6	Bolt
29	585295	2	Step
30	24C-836	4	Bolt
31	584165	1	Mount transm RH
31A	†584180	1	Mount transm LH
32	71D-08	1	Base
33	70D-08	1	Nut
34	585644	1	Bushing
35	‡551348	—	Washer

No.	Part No.	Qty.	Description
36	³567290	1	Cradle assy axle
37	‡551347	—	Washer
38	‡551347	—	Washer
39	585644	1	Bushing
40	‡551348	—	Washer
41	18D-08	2	Nut
42	12H-15	2	Fitting grease
43	585327	2	Pin
44	24C-856	2	Bolt
45	18D-08	1	Nut
46	567415	1	Dampener vibration
47	652480	1	Sleeve
48	619029	1	Washer
49	24C-828	1	Bolt
50	567416	1	Dampener vibration
51	24C-864	1	Bolt
52	18D-08	1	Nut
53	1516606	1	Bracket
54	18D-08	1	Nut
55	567415	1	Dampener vibration
56	619029	1	Washer
57	24C-828	1	Bolt
58	652480	1	Sleeve
59	1516623	1	Engine mount LH
60	567416	1	Dampener vibration
61	24C-864	1	Bolt
62	24C-720	4	Bolt
63	4E-07	4	Lockwasher
64	70D-08	1	Nut
65	71D-08	1	Base
66	567415	1	Dampener vibration
67	652480	1	Sleeve
68	2511665	1	Engine mount
69	567416	1	Dampener vibration
70	24C-864	1	Bolt

<sup>2</sup>See Perkins Parts Manual

<sup>3</sup>Inc. 34, 39



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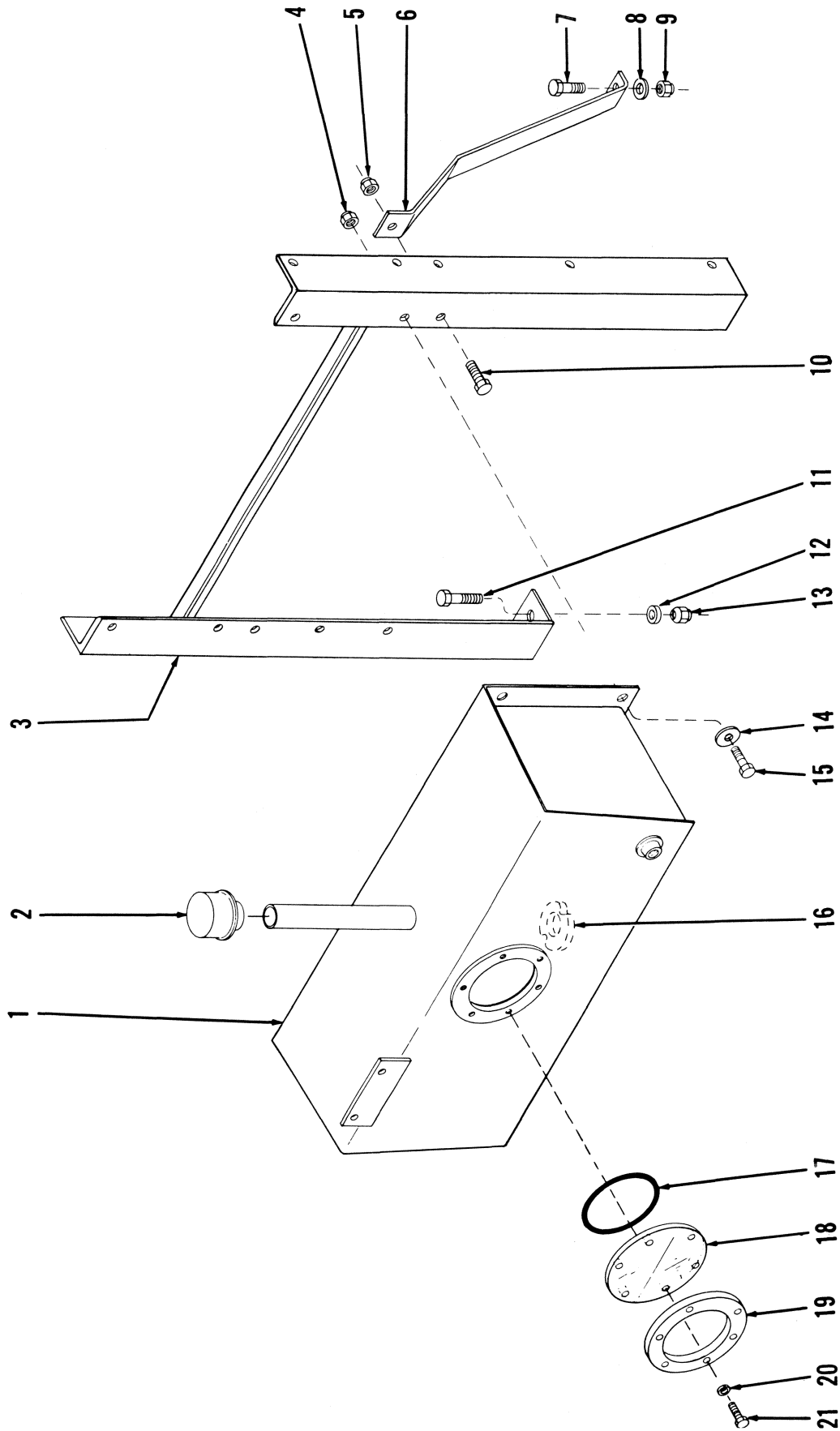
No.	Part No.	Qty.	Description
1	2511738	1	Hose
2	2511675	1	Tube
3	30H-40	1	Clip
4	69F-5	1	Valve shut-off
5	19F-3	1	Reducing bushing
6	<sup>2</sup> 585116	1	Tank assy
6A	†946445	1	Gauge fuel
7	539837	1	Cap
8	18D-08	2	Nut
9	25E-21	2	Washer
10	24C-828	2	Bolt
11	19F-1	1	Reducing bushing
12	62F-3	1	Elbow
13	2511678	1	Tube
14	30H-31	1	Clip
15	2511737	1	Hose
16	<sup>3</sup> _____	1	Filter

<sup>2</sup>Incl. 6A

<sup>3</sup>See Perkins Engine Manual

**Group H**

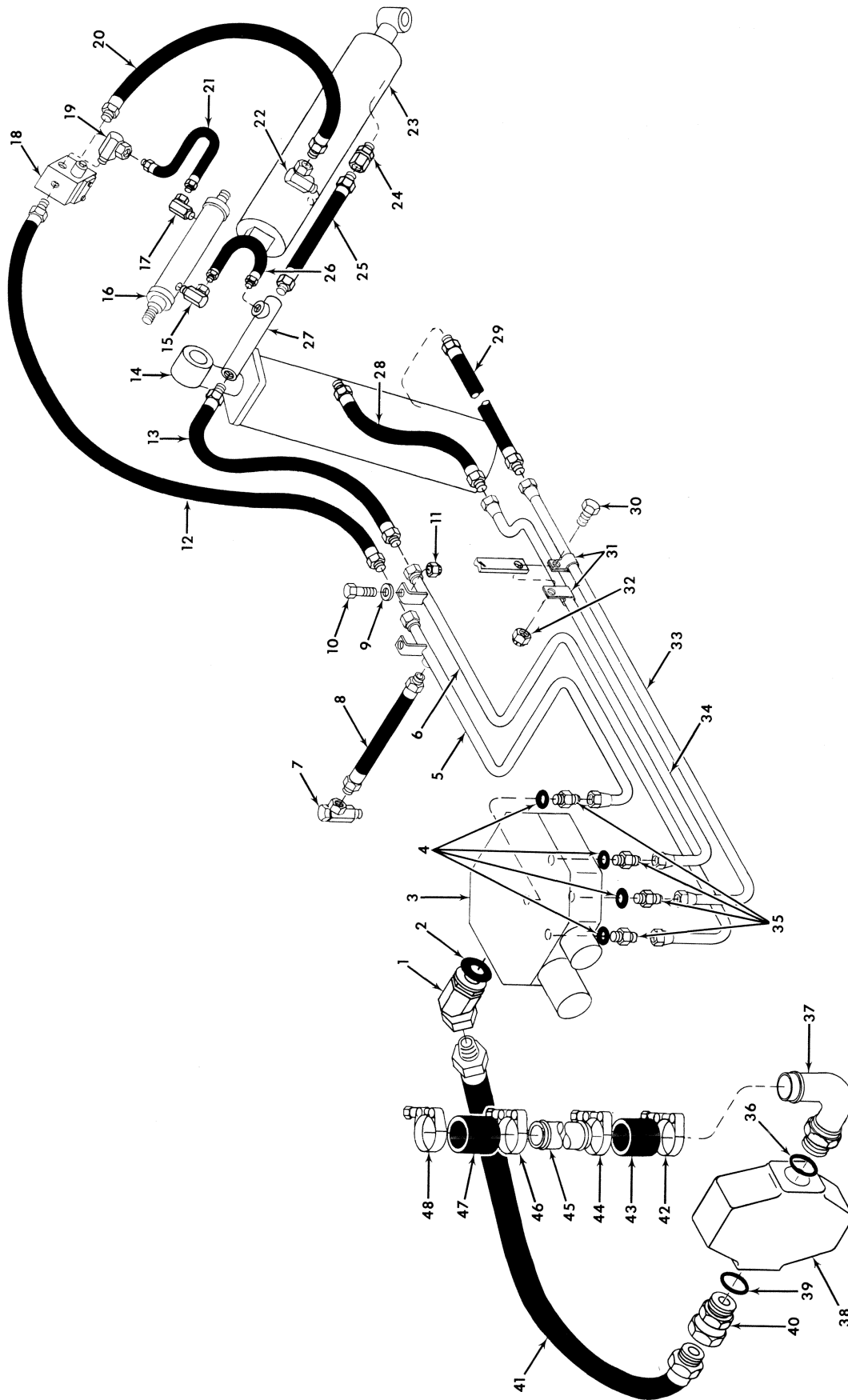
Hydraulic Oil Reservoir .....H3  
Hydraulic System, Main .....H5  
Hydraulic System, Steering .....H7  
Hydraulic System, Transmission & Converter .....H11



# Hydraulic Oil Reservoir



No.	Part No.	Qty.	Description
1	584116	1	Reservoir
2	604639	1	Breather
3	586464	1	Support
4	18D-08	4	Nut
5	18D-06	2	Nut
6	585496	2	Brace
7	24C-824	2	Bolt
8	71D-08	2	Base
9	70D-08	2	Nut
10	24C-616	2	Bolt
11	24C-824	2	Bolt
12	71D-08	2	Base
13	70D-08	2	Nut
14	25E-21	3	Washer
15	24C-820	4	Bolt
16	525293	1	Magnet
17	25K-40428	1	O-ring
18	550389	1	Cover
19	550398	1	Ring
20	4E-06	6	Lockwasher
21	24C-616	6	Bolt





# Hydraulic System, Main

**MICHIGAN**

No.	Part No.	Qty.	Description
1	583210	1	Adapter
2	91F-8	1	O-ring
3	<sup>7</sup> -----	1	Valve assy main
4	91F-9	4	O-ring
5	585861	1	Tube
6	585862	1	Tube
7	<sup>7</sup> -----	1	Valve check
8	661558	1	Hose
9	25E-18	2	Washer
10	24C-620	2	Bolt
11	18D-06	2	Nut
12	585867	1	Hose
13	585867	1	Hose
14	<sup>7</sup> -----	1	Cylinder assy boom
15	517089	1	Adapter
15A	<sup>†</sup> 91F-6	1	O-ring
16	<sup>7</sup> -----	1	Valve level
17	517089	1	Adapter
17A	<sup>†</sup> 91F-6	1	O-ring
18	1516366	1	Solenoid valve
19	517089	1	Adapter
19A	<sup>†</sup> 91F-6	1	O-ring
20	610386	1	Hose
21	661558	1	Hose
22	553843	1	Adapter
23	<sup>7</sup> -----	1	Cylinder assy bucket
24	36F-5	1	Adapter
25	612390	1	Hose
26	661558	1	Hose
27	586426	1	Coupling
28	612390	1	Hose
29	612390	1	Hose
30	24C-620	1	Bolt
31	6H-20	2	Clip
32	18D-06	1	Nut
33	1516680	1	Tube
34	1516663	1	Tube
35	<sup>5</sup> 1302659	4	Adapter
36	91F-11	1	O-ring
37	<sup>4</sup> 573585	1	Suction tube
38	<sup>7</sup> -----	1	Pump main
39	91F-8	1	O-ring
40	<sup>8</sup> 545204	1	Adapter
41	585867	1	Hose
42	1545004	1	Clamp
43	536710	1	Hose
44	1545004	1	Clamp
45	562617	1	Tube
46	1545004	1	Clamp
47	536710	1	Hose
48	1545004	1	Clamp

<sup>1</sup>Inc. 2

<sup>2</sup>Inc. 15A

<sup>3</sup>Inc. 17A

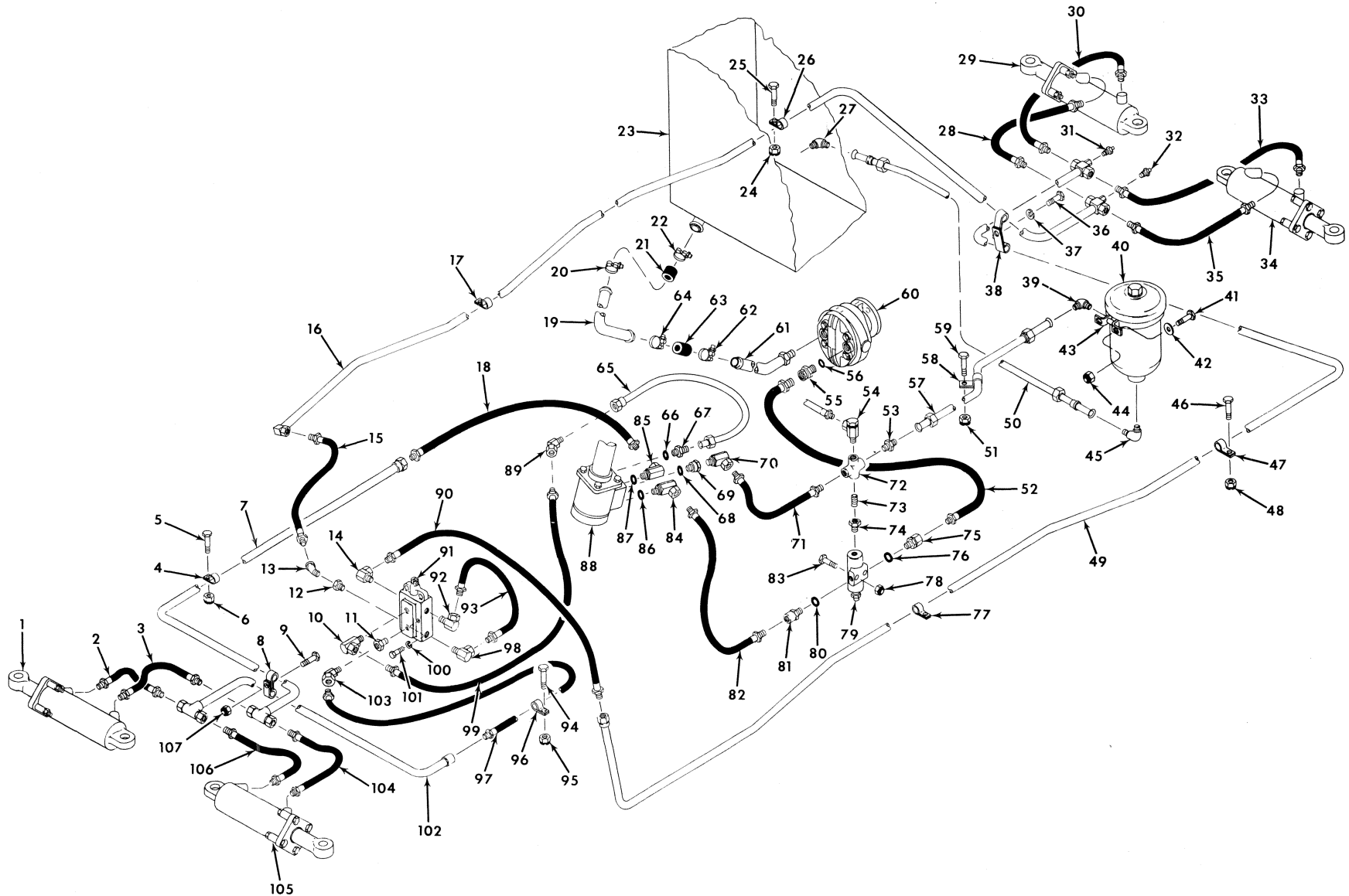
<sup>4</sup>Inc. 19A

<sup>5</sup>Inc. 4

<sup>6</sup>Inc. 36

<sup>7</sup>See Index

<sup>8</sup>Inc. 39



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# Hydraulic System, Steering

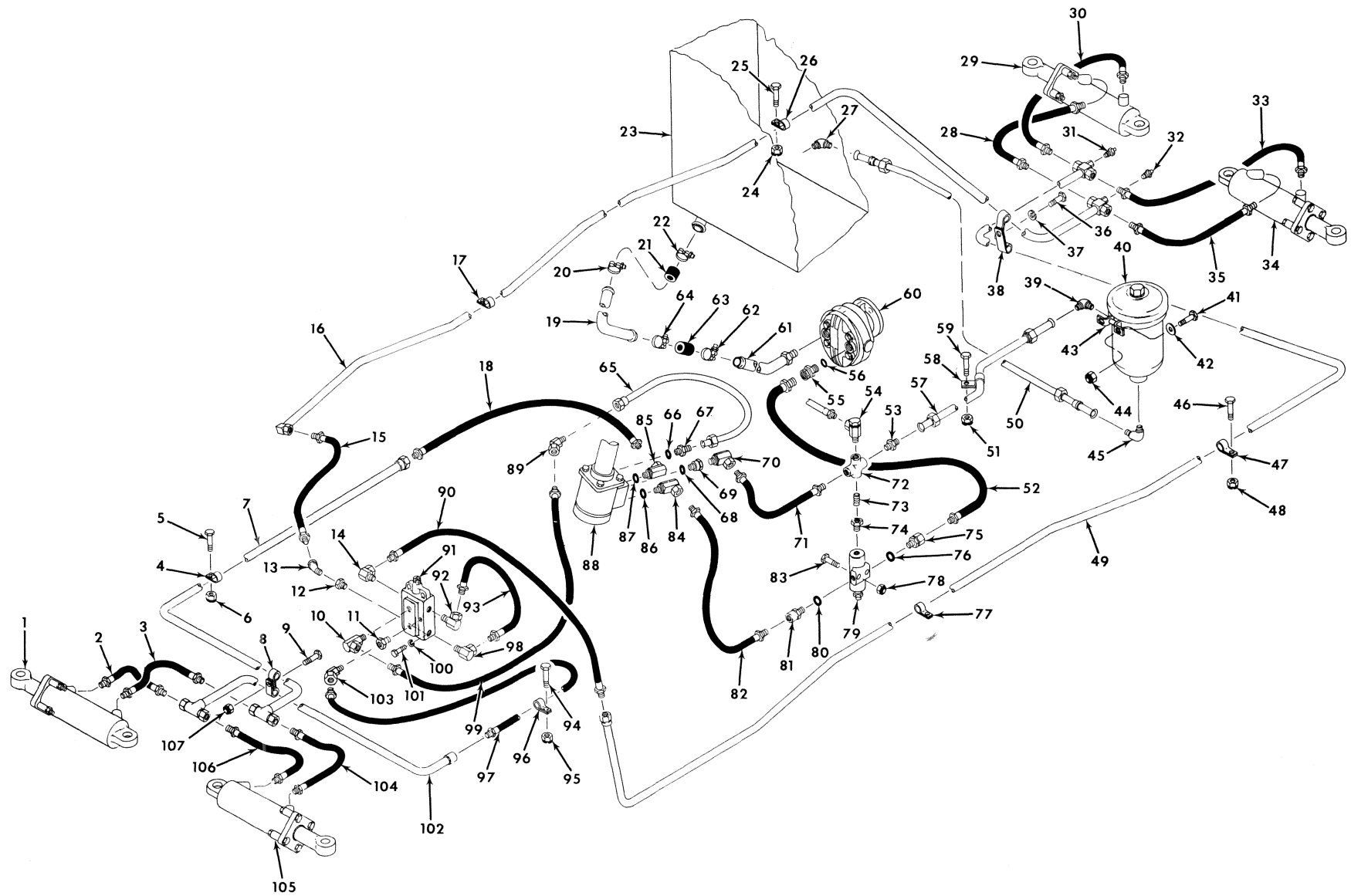
**MICHIGAN**

No.	Part No.	Qty.	Description
1	<sup>10</sup> _____	1	Cylinder assy strg
2	661558	1	Hose
3	661558	1	Hose
4	538231	1	Clip
5	24C-824	1	Bolt
6	18D-08	1	Nut
7	1512932	1	Tube RH
8	30H-38	2	Clip
9	24C-616	1	Bolt
10	711053	1	Adapter union
10A	†356621	1	Bushing
11	356622	1	Bushing
12	356622	1	Bushing
13	81F-3	1	Elbow
14	711053	1	Adapter union
14A	†356621	1	Bushing
15	661558	1	Hose
16	1517266	1	Tube RH
17	558602	1	Clip
18	661558	1	Hose
19	562616	1	Tube
20	1545186	1	Clamp
21	1545741	1	Hose
22	1545186	1	Clamp
23	<sup>10</sup> _____	1	Reservoir
24	18D-08	1	Nut
25	24C-824	1	Bolt
26	558602	1	Clip
27	1303618	1	Elbow
28	661558	1	Hose
29	<sup>10</sup> _____	1	Cylinder assy strg
30	661558	1	Hose
31	641297	1	Bleeder valve
32	641297	1	Bleeder valve
33	661558	1	Hose
34	<sup>10</sup> _____	1	Cylinder assy strg
35	661558	1	Hose
36	24C-616	1	Bolt
37	4E-06	1	Lockwasher
38	30H-38	2	Clip
39	83F-7	1	Elbow
40	558598	1	Filter
40A	†957577	1	Filter element
41	24C-516	2	Bolt
42	25E-15	2	Washer
43	558599	1	Strap mounting
44	18D-05	2	Nut
45	83F-7	1	Elbow
46	24C-824	1	Bolt
47	558602	1	Clip
48	18D-08	1	Nut
49	1517267	1	Tube LH
50	586013	1	Tube
51	18D-06	1	Nut
52	661558	1	Hose
53	89F-7	1	Connector

<sup>1</sup>Incl. 40A

<sup>2</sup>Incl. 61A

<sup>10</sup>See Index



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# Hydraulic System, Steering

**MICHIGAN**

No.	Part No.	Qty.	Description
54	6K-08	1	Valve check
55	<sup>9</sup> 1314965	1	Adapter union
56	91F-8	1	O-ring
57	1517196	1	Tube
58	30H-38	1	Clip
59	24C-616	1	Bolt
60	<sup>10</sup> -----	1	Pump steering
61	1510094	1	Suction tube
61A	-----	1	O-ring
62	1545186	1	Clamp
63	1545741	1	Hose
64	1545186	1	Clamp
65	1514338	1	Tube
66	91F-6	1	O-ring
67	<sup>3</sup> 15K-6	1	Connector
68	91F-6	1	O-ring
69	<sup>4</sup> 556579	1	Connector
70	1514341	1	Elbow
71	661558	1	Hose
72	21F-4	1	Cross
73	5K-409	1	Nipple
74	356617	1	Bushing
75	<sup>5</sup> 743823	1	Adapter union
76	91F-7	1	O-ring
77	558602	1	Clip
78	18D-05	2	Nut
79	<sup>10</sup> -----	1	Relief valve assy
79A	†1309105	1	Elbow
80	91F-7	1	O-ring
81	<sup>6</sup> 528691	1	Connector
82	661558	1	Hose
83	24C-540	2	Bolt
84	<sup>7</sup> 517089	1	Adapter
85	<sup>8</sup> 517089	1	Adapter
86	91F-6	1	O-ring
87	91F-6	1	O-ring
88	<sup>10</sup> -----	1	Steering controls
89	33F-4	1	Adapter union
90	661558	1	Hose
91	<sup>10</sup> -----	1	Valve selector
92	711053	1	Adapter union
92A	†356621	1	Bushing
93	661558	1	Hose
94	24C-824	1	Bolt
95	18D-08	1	Nut
96	1504796	1	Clip
97	661558	1	Hose
98	711053	1	Adapter union
98A	†356621	1	Bushing
99	661558	1	Hose
100	4E-06	2	Lockwasher
101	24C-656	2	Bolt
102	567412	1	Tube
103	33F-4	1	Adapter union
104	661558	1	Hose
105	<sup>10</sup> -----	1	Cylinder assy strg
106	661558	1	Hose
107	18D-06	1	Nut

<sup>3</sup>Inc. 66

<sup>4</sup>Inc. 68

<sup>5</sup>Inc. 76

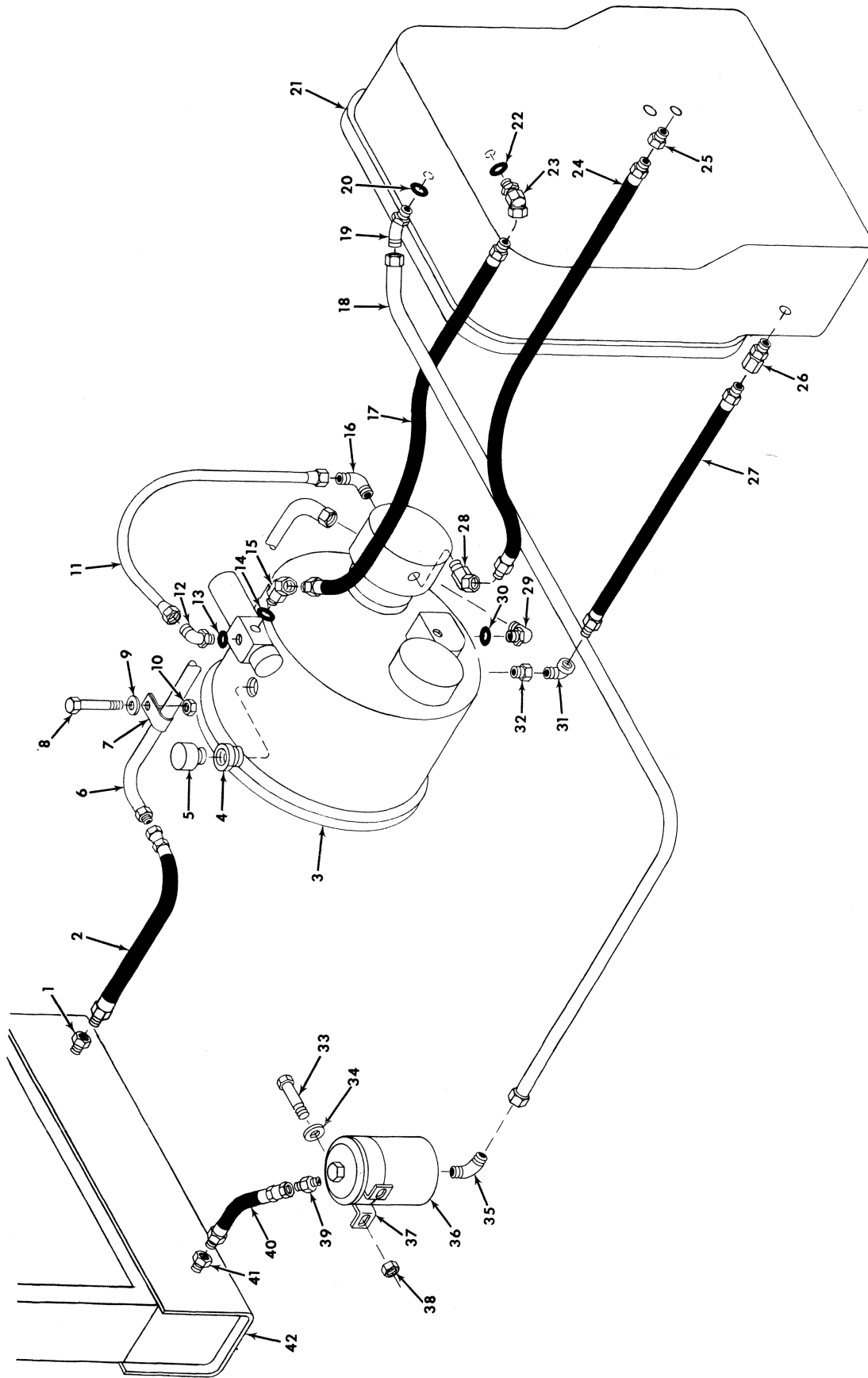
<sup>6</sup>Inc. 80

<sup>7</sup>Inc. 86

<sup>8</sup>Inc. 87

<sup>9</sup>Inc. 56

<sup>10</sup>See Index



# Hydraulic System, Transmission & Converter

**MICHIGAN**

No.	Part No.	Qty.	Description
1	356617	1	Bushing
2	2511703	1	Hose
3	<sup>1</sup> -----	1	Converter assy
4	227265	1	Valve check
5	211433	1	Breather
6	2511676	1	Tube
7	6H-16	1	Clip
8	24C-620	1	Bolt
9	25E-18	2	Washer
10	18D-06	1	Locknut
11	585662	1	Tube
12	<sup>2</sup> 18K-8	1	Elbow
13	91F-8	1	O-ring
14	91F-6	1	O-ring
15	<sup>3</sup> 574290	1	Adapter union
16	83F-8	1	Elbow
17	650599	1	Hose
18	2511671	1	Tube
19	<sup>4</sup> 18K-8	1	Elbow
20	91F-8	1	O-ring
21	<sup>1</sup> -----	1	Transmission assy
22	91F-6	1	O-ring
23	<sup>5</sup> 574290	1	Adapter union
24	536772	1	Hose
25	356621	1	Bushing
26	661428	1	Adapter union
27	536772	1	Hose
28	711285	1	Adapter union
29	<sup>6</sup> 1302104	1	Elbow
30	91F-8	1	O-ring
31	26F-5	1	Elbow
32	356621	1	Bushing
33	24C-516	2	Bolt
34	25E-15	2	Washer
35	730149	1	Elbow
36	<sup>7</sup> 558598	1	Filter
36A	<sup>1</sup> 957577	1	Filter element
37	558599	1	Strap mounting
38	18D-05	2	Locknut
39	89F-7	1	Connector
40	1517208	1	Hose
41	356617	1	Bushing
42	<sup>1</sup> -----	1	Radiator assy

<sup>1</sup>See Index

<sup>2</sup>Inc. 13

<sup>3</sup>Inc. 14

<sup>4</sup>Inc. 20

<sup>5</sup>Inc. 22

<sup>6</sup>Inc. 30

<sup>7</sup>Inc. 36A





**Group N**

Nameplates & Decals .....N2

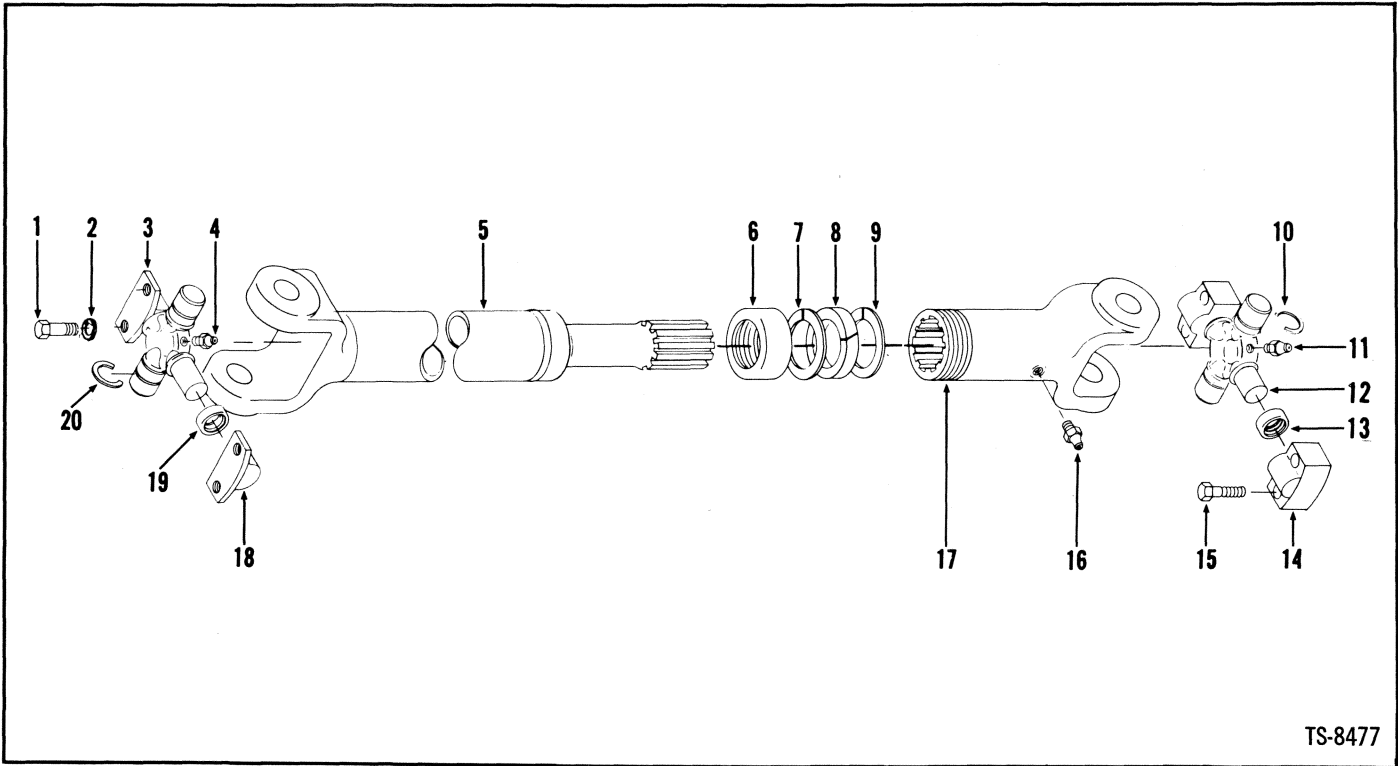


## Nameplates & Decals

No.	Part No.	Qty.	Description
1	547852	2	Decal "Michigan"
2	1501805	1	Decal "Michigan"
3	547851	2	Decal "Clark Equipment"
4	1504793	2	Decal model
5	548472	2	Decal oil level
6	585755	1	Decal gear shift
7	549096	2	Decal pointer
8	572200	2	Decal all wheel steer
9	1548364	1	Decal brake warning
10	1549006	1	Decal hand brake
11	1549005	1	Decal not for parking
12	548521	1	Decal glow plug
13	535649	1	Nameplate "Michigan"
14	7G-424	4	Screw
15	17D-1	4	Nut
16	1523338	1	Decal oil change
17	1512006	1	Decal patent
18	1507422	1	Plate serial number
19	6C-605	4	Screw

**Group P**

Propeller Shaft Assembly – Axles/Transmission .....P2  
Propeller Shaft Assembly – Converter/Transmission .....P3  
Pump Assembly, Main .....P5  
Pump Assembly, Steering .....P7  
Pump Attaching Parts .....P8



TS-8477

No.	Part No.	Qty.	Description
A	<sup>1</sup> 584876	1	Propeller shaft
B	<sup>2</sup> 584875	1	Propeller shaft
C	<sup>2,9</sup> 562476	1	Propeller shaft
1	1542298	4	Bolt
2	-----	—	Omit
3	<sup>3</sup> 945387	1	Spider u-joint
4	10H-35	1	Fitting grease
5	<sup>4</sup> 945391	1	Tube
5A	<sup>5</sup> 945386	1	Tube
6	942744	1	Retainer
7	942750	1	Washer
8	942751	1	Felt
9	942750	1	Washer
10	945389	1	Retaining ring
11	10H-35	1	Fitting grease
12	<sup>6</sup> 945388	1	Spider u-joint
13	-----	—	Omit
14	<sup>7</sup> -----	2	Bearing
15	945390	4	Bolt
16	10H-25	1	Fitting grease
17	945385	1	Slip yoke
18	<sup>8</sup> -----	2	Bearing
19	-----	—	Omit
20	945389	2	Retaining ring

<sup>1</sup>Front Axle to Transmission (Inc. 3→5, 6→12, 14, 16, 17, 18, 20)

<sup>2</sup>Rear Axle to Transmission (Inc. 3, 4, 5A→12, 14, 16, 17, 18, 20)

<sup>3</sup>Inc. 4, 18

<sup>4</sup>Front Axle to Transmission

<sup>5</sup>Rear Axle to Transmission

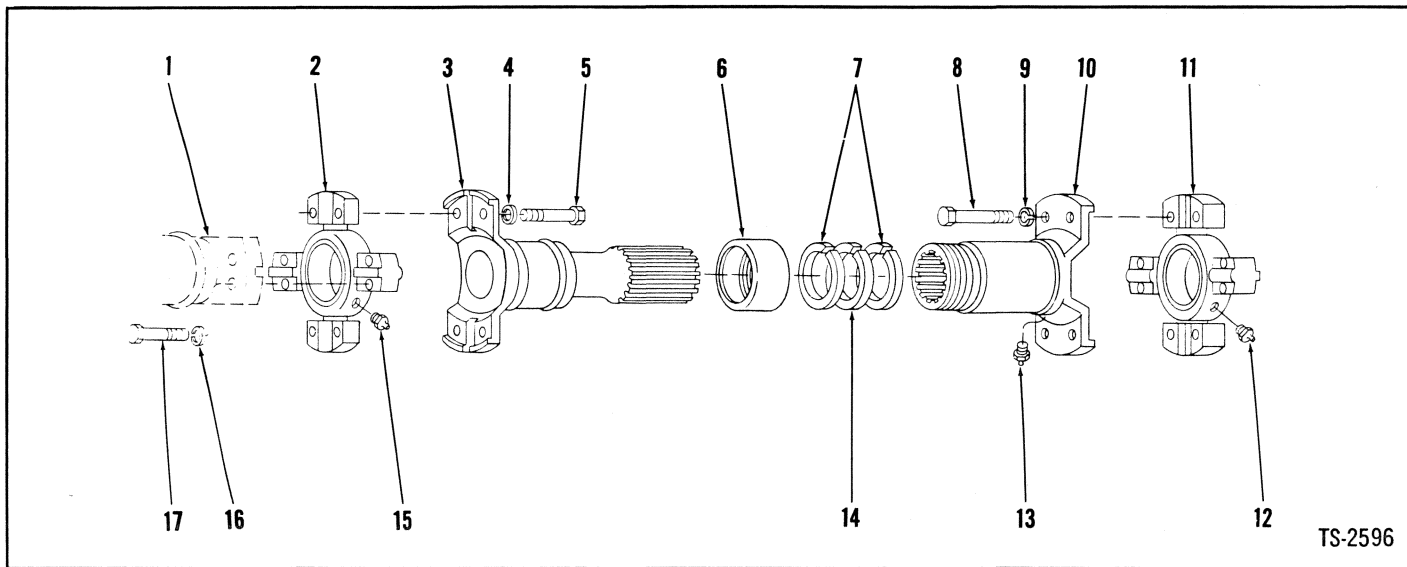
<sup>6</sup>Inc. 11, 14

<sup>7</sup>See 12

<sup>8</sup>See 3

<sup>9</sup>Used with 284521 Transmission with disconnect

# Propeller Shaft Assembly – Converter/Transmission



TS-2596

No.	Part No.	Qty.	Description
A	<sup>1</sup> 562615	1	Propeller shaft
1	<sup>2</sup> -----	—	Flange
2	<sup>3</sup> 946067	1	Spider u-joint
3	946068	1	Tube
4	-----	—	Omit
5	947388	4	Bolt
6	940654	1	Retainer
7	940653	2	Washer
8	947388	4	Bolt
9	-----	—	Omit
10	<sup>4</sup> 944868	1	Slip yoke
11	<sup>5</sup> 946067	1	Spider u-joint
12	10H-35	1	Fitting grease
13	10H-25	1	Fitting grease
14	940081	1	Felt
15	10H-35	1	Fitting grease
16	-----	—	Omit
17	947388	8	Bolt

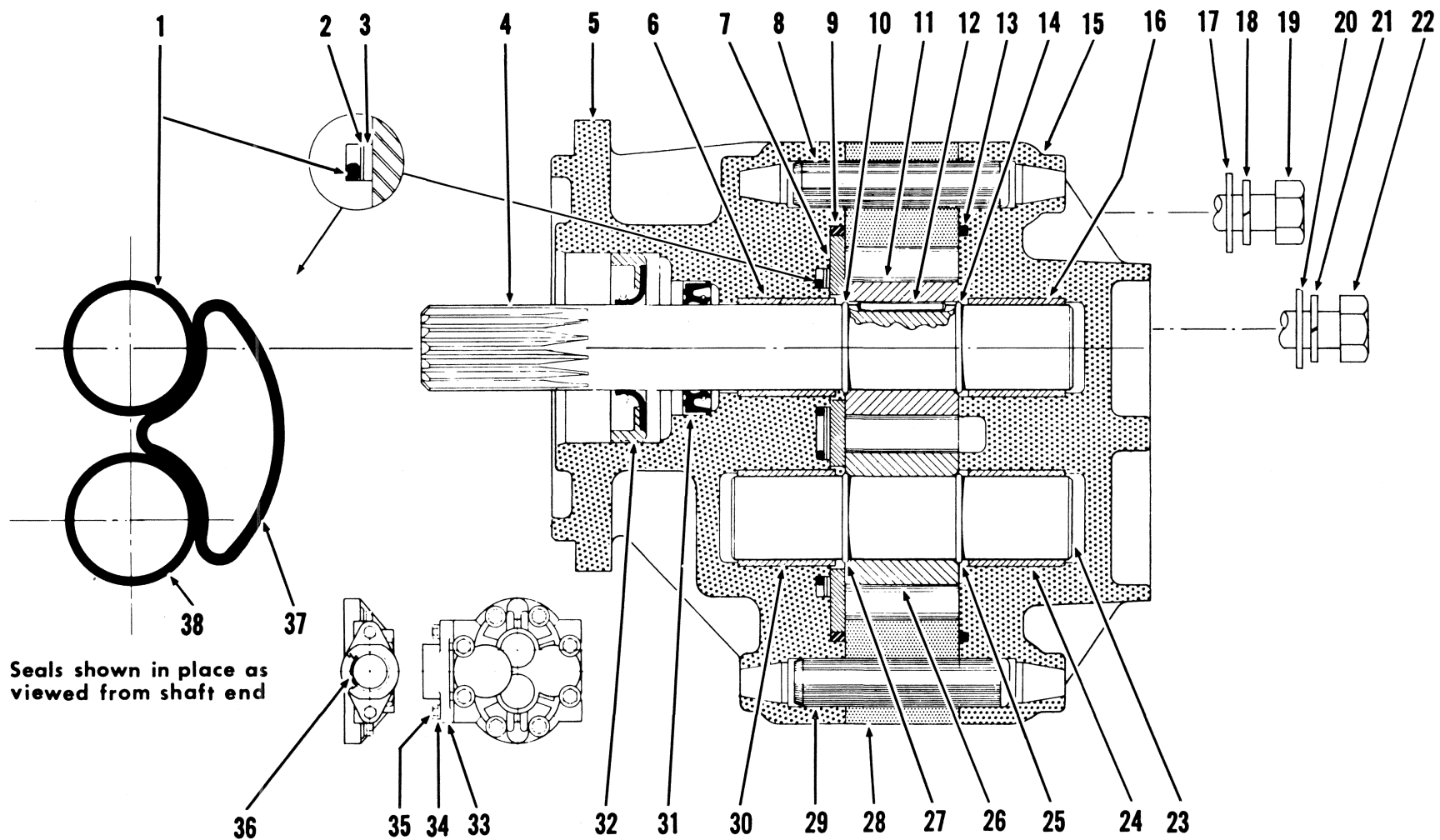
<sup>1</sup>Inc. 2, 3, 5 → 8, 10 → 15

<sup>2</sup>Transmission Flange – Reference Only

<sup>3</sup>Inc. 15

<sup>4</sup>Inc. 13

<sup>5</sup>Inc. 12



Seals shown in place as viewed from shaft end

# Pump Assembly, Main

**MICHIGAN**

No.	Part No.	Qty.	Description
A	<sup>1,2</sup> 1521270	1	Pump assy
B	<sup>3</sup> 946424	1	Seal kit
1	<sup>4</sup> -----	1	O-ring
2	<sup>4</sup> -----	1	Ring back-up
3	<sup>4</sup> -----	1	Ring back-up
4	<sup>5</sup> -----	1	Shaft
5	<sup>5</sup> -----	1	Adapter
6	<sup>5</sup> -----	1	Bushing
7	<sup>5</sup> -----	1	Wear plate
8	<sup>5</sup> -----	1	Dowel
9	<sup>4</sup> -----	1	O-ring
10	<sup>5</sup> -----	1	Ring
11	<sup>5</sup> -----	1	Gear
12	<sup>5</sup> -----	1	Dowel
13	<sup>4</sup> -----	1	O-ring
14	<sup>5</sup> -----	1	Ring
15	<sup>5</sup> -----	1	Cover
16	<sup>5</sup> -----	1	Bushing
17	<sup>5</sup> -----	4	Washer
18	<sup>5</sup> -----	4	Lockwasher
19	<sup>5</sup> -----	4	Bolt
20	<sup>5</sup> -----	4	Washer
21	<sup>5</sup> -----	4	Lockwasher
22	<sup>5</sup> -----	4	Bolt
23	<sup>5</sup> -----	1	Shaft
24	<sup>5</sup> -----	1	Bushing
25	<sup>5</sup> -----	1	Ring
26	<sup>5</sup> -----	1	Gear
27	<sup>5</sup> -----	1	Ring
28	<sup>5</sup> -----	1	Housing
29	<sup>5</sup> -----	1	Dowel
30	<sup>5</sup> -----	1	Bushing
31	<sup>4</sup> -----	1	Seal
32	<sup>4</sup> -----	1	Seal
33	<sup>5</sup> -----	1	Flange
34	<sup>5</sup> -----	2	Lockwasher
35	<sup>5</sup> -----	2	Bolt
36	<sup>4</sup> -----	1	O-ring
37	<sup>4</sup> -----	1	O-ring
38	<sup>4</sup> -----	1	O-ring

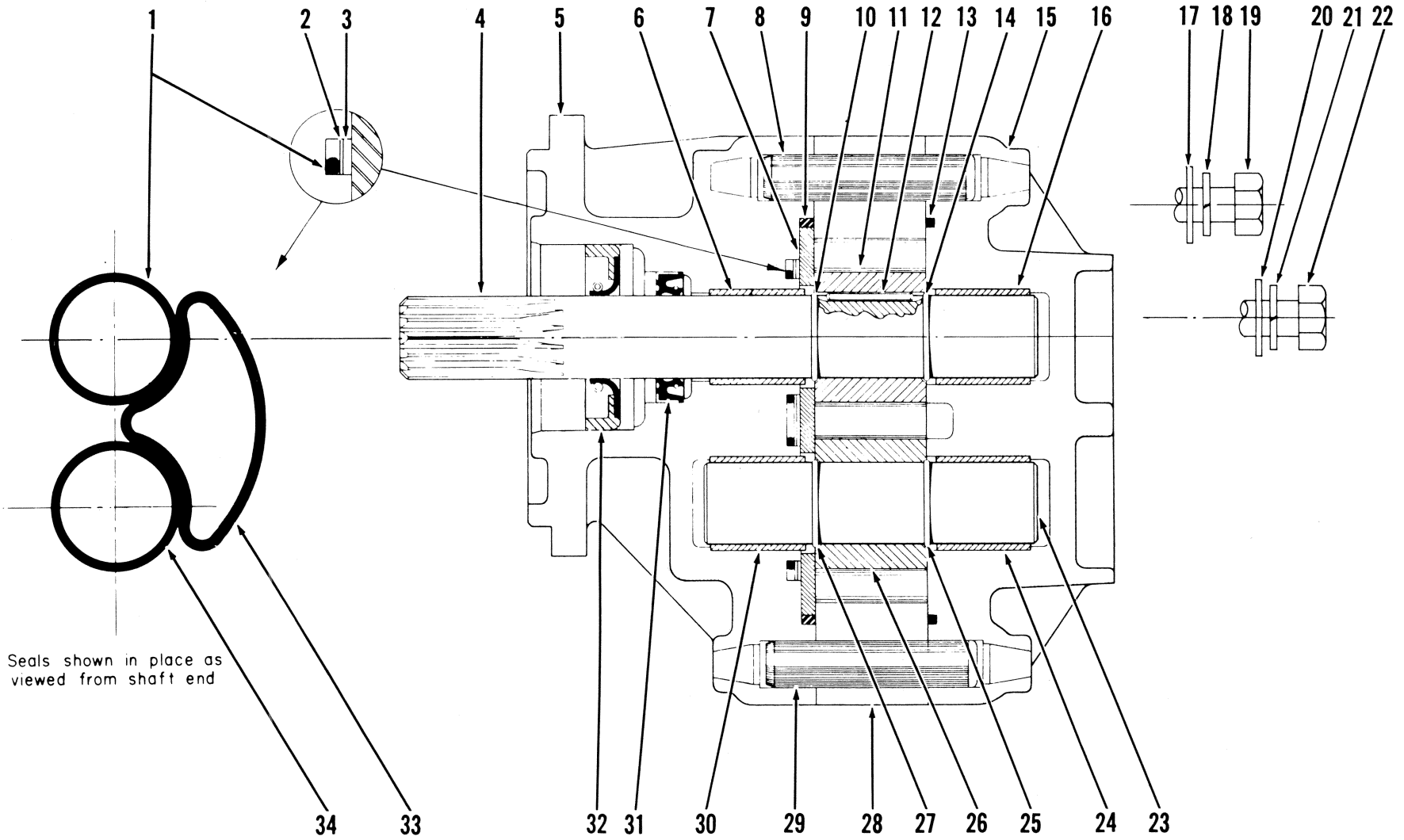
<sup>1</sup>Inc. 1→38

<sup>2</sup>The above listed pump, with the exception of seal kit listed, is not considered rebuildable in the field. Due to extremely close tolerances involved and extensive break-in test required, the cost of equipment needed and parts plus labor would exceed cost of replacement pump. Order replacement pump by part number listed.

<sup>3</sup>Inc. 1, 2, 3, 9, 13, 31, 32, 36, 37, 38

<sup>4</sup>See B

<sup>5</sup>See A



Seals shown in place as viewed from shaft end



# Pump Assembly, Steering

**MICHIGAN**

No.	Part No.	Qty.	Description
A	<sup>1,10</sup> 3151160	1	Pump assy
1	58K-022	1	O-ring
2	3677269	1	Ring back-up
3	3677270	1	Ring back-up
4	<sup>2</sup> 3679079	1	Shaft
5	<sup>3</sup> 946485	1	Adapter
6	§ <sup>4</sup> -----	—	Bushing
7	946486	1	Wear plate
8	946487	1	Dowel
9	3677271	1	O-ring
10	§ <sup>5</sup> -----	—	Ring
11	§ <sup>5</sup> -----	—	Gear
12	§ <sup>5</sup> -----	—	Dowel
13	1566740	1	O-ring
14	§ <sup>5</sup> -----	—	Ring
15	<sup>6</sup> 3679077	1	Cover
16	§ <sup>7</sup> -----	—	Bushing
17	-----	—	Omit
18	4E-06	4	Lockwasher
19	1C-648	4	Bolt
20	-----	—	Omit
21	4E-06	4	Lockwasher
22	1C-660	4	Bolt
23	<sup>8</sup> 3679080	1	Shaft
24	§ <sup>7</sup> -----	—	Bushing
25	§ <sup>9</sup> -----	—	Ring
26	§ <sup>9</sup> -----	—	Gear
27	§ <sup>9</sup> -----	—	Ring
28	946488	1	Housing
29	946487	1	Dowel
30	§ <sup>4</sup> -----	—	Bushing
31	3677268	1	Seal
32	3677273	1	Seal
33	3677272	1	Seal
34	58K-022	1	O-ring

<sup>1</sup>Inc. 1 → 34

<sup>2</sup>Inc. 10, 11, 12, 14

<sup>3</sup>Inc. 6, 30

<sup>4</sup>See 5

<sup>5</sup>See 4

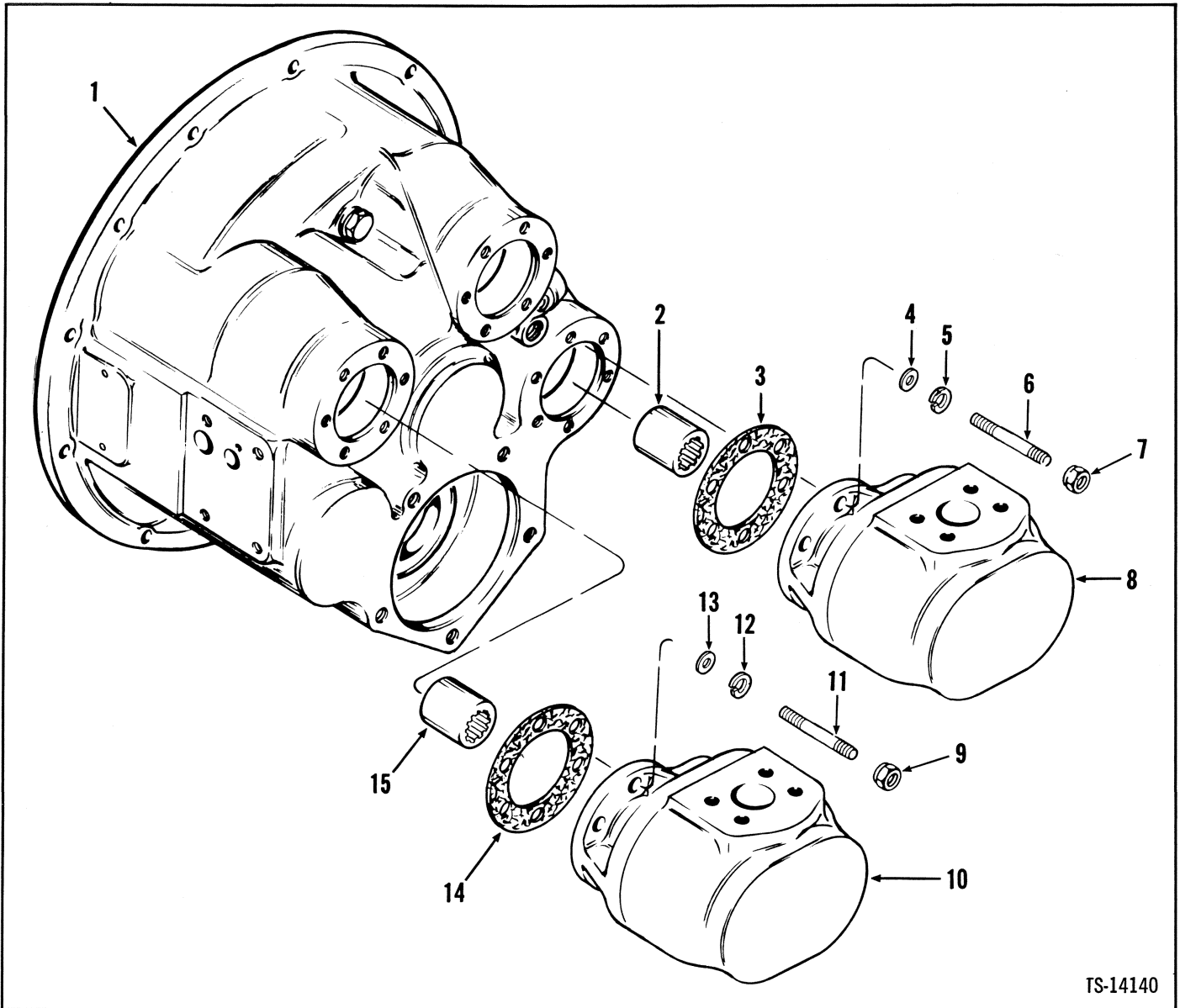
<sup>6</sup>Inc. 16, 24

<sup>7</sup>See 15

<sup>8</sup>Inc. 25, 26, 27

<sup>9</sup>See 23

<sup>10</sup>Note: Pump is equipped with bushing type bearings. Bearings are machine finished after pressing in place and therefore are not replaceable service items.



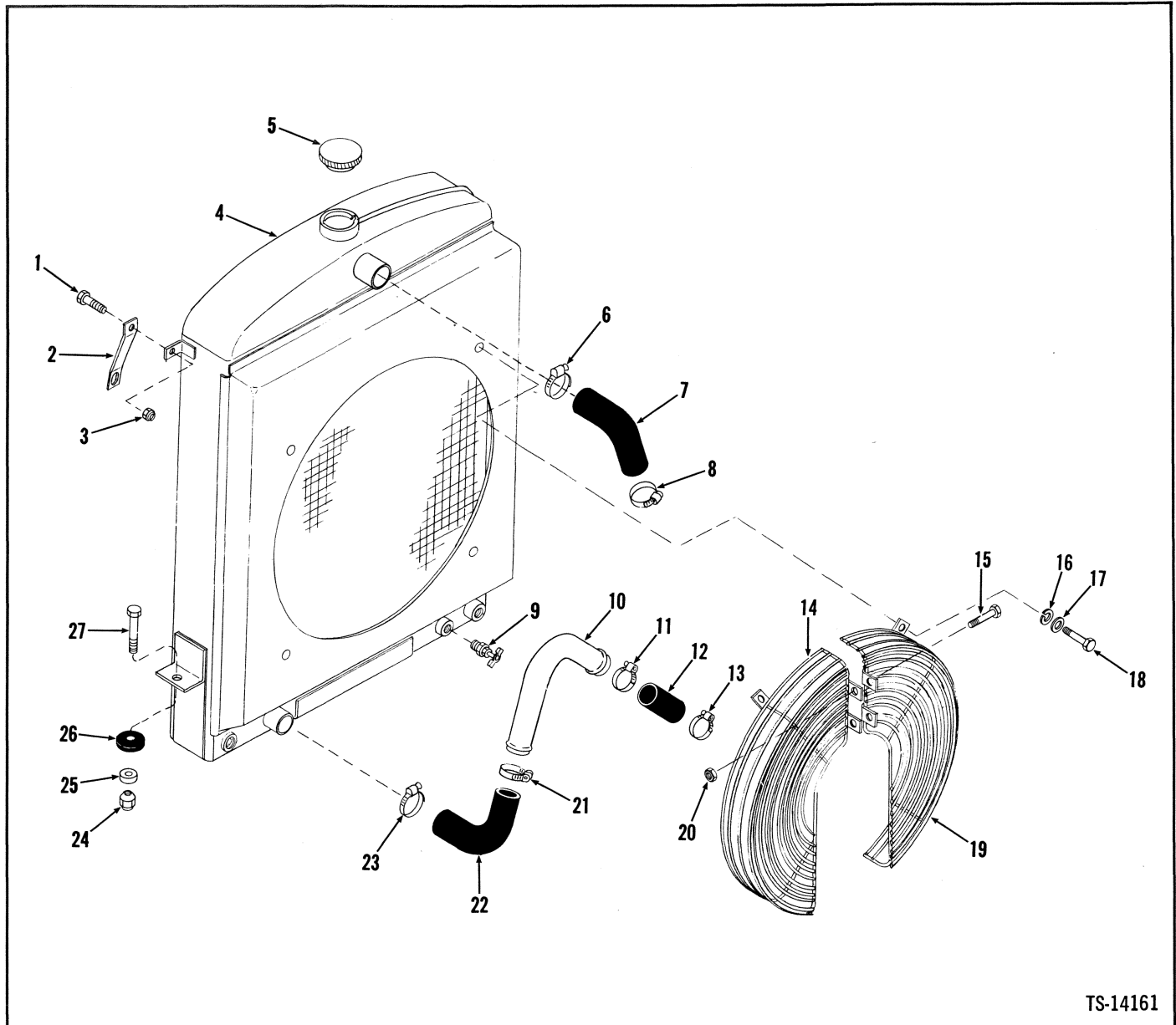
TS-14140

No.	Part No.	Qty.	Description
1	1	1	Converter
2	214962	1	Sleeve
3	551906	1	Gasket
4	25E-17	3	Washer
5	9E-06	3	Lockwasher
6	1722717	3	Stud
7	8D-06	3	Nut
8	1	1	Pump main
9	8D-06	3	Nut
10	1	1	Pump steering
11	1722717	3	Stud
12	9E-06	3	Lockwasher
13	25E-17	3	Washer
14	551906	1	Gasket
15	214961	1	Sleeve

<sup>1</sup>See Index

**Group R**

Radiator & Connections .....R2  
Roll Over Protective Structure .....R3



TS-14161

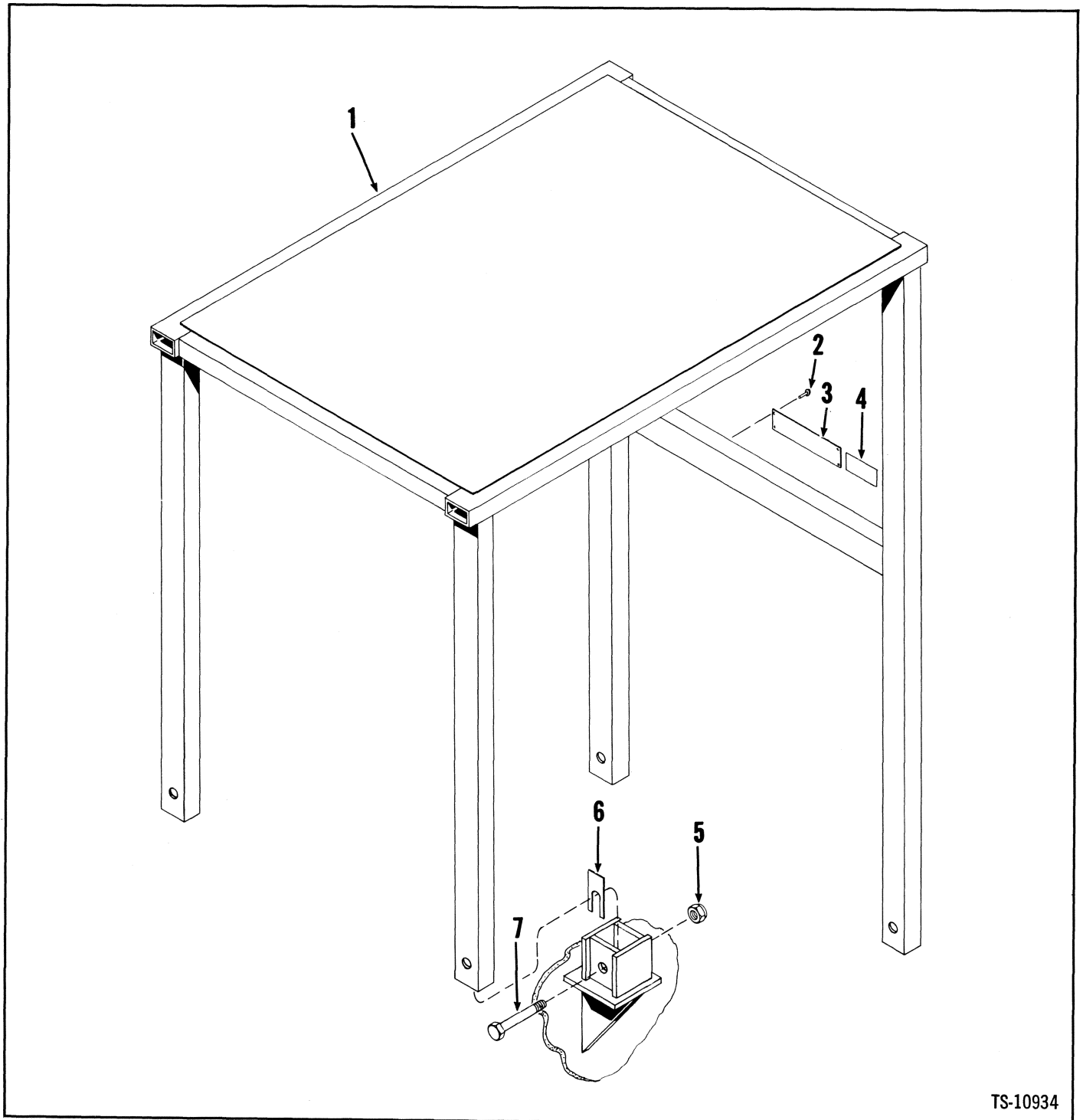
No.	Part No.	Qty.	Description
1	24C-616	2	Bolt
2	2511674	2	Bracket
3	18D-06	2	Nut
4	2510635	1	Radiator assy
5	351495	1	Cap
6	784663	1	Clamp
7	2501643	1	Hose
8	784663	1	Clamp
9	72F-2	1	Draincock
10	1516823	1	Tube
11	784663	1	Clamp
12	555979	1	Hose
13	784663	1	Clamp
14	2508689	1	Guard RH

No.	Part No.	Qty.	Description
15	24C-616	2	Bolt
16	4E-06	4	Lockwasher
17	25E-18	4	Washer
18	24C-616	4	Bolt
19	2508690	1	Guard LH
20	18D-06	2	Nut
21	784663	1	Clamp
22	567255	1	Hose
23	784663	1	Clamp
24	70D-08	2	Nut
25	71D-08	2	Base
26	518233	2	Dampener vibration
27	24C-828	2	Bolt

2Inc. 5

# Roll-over Protective Structure

MICHIGAN



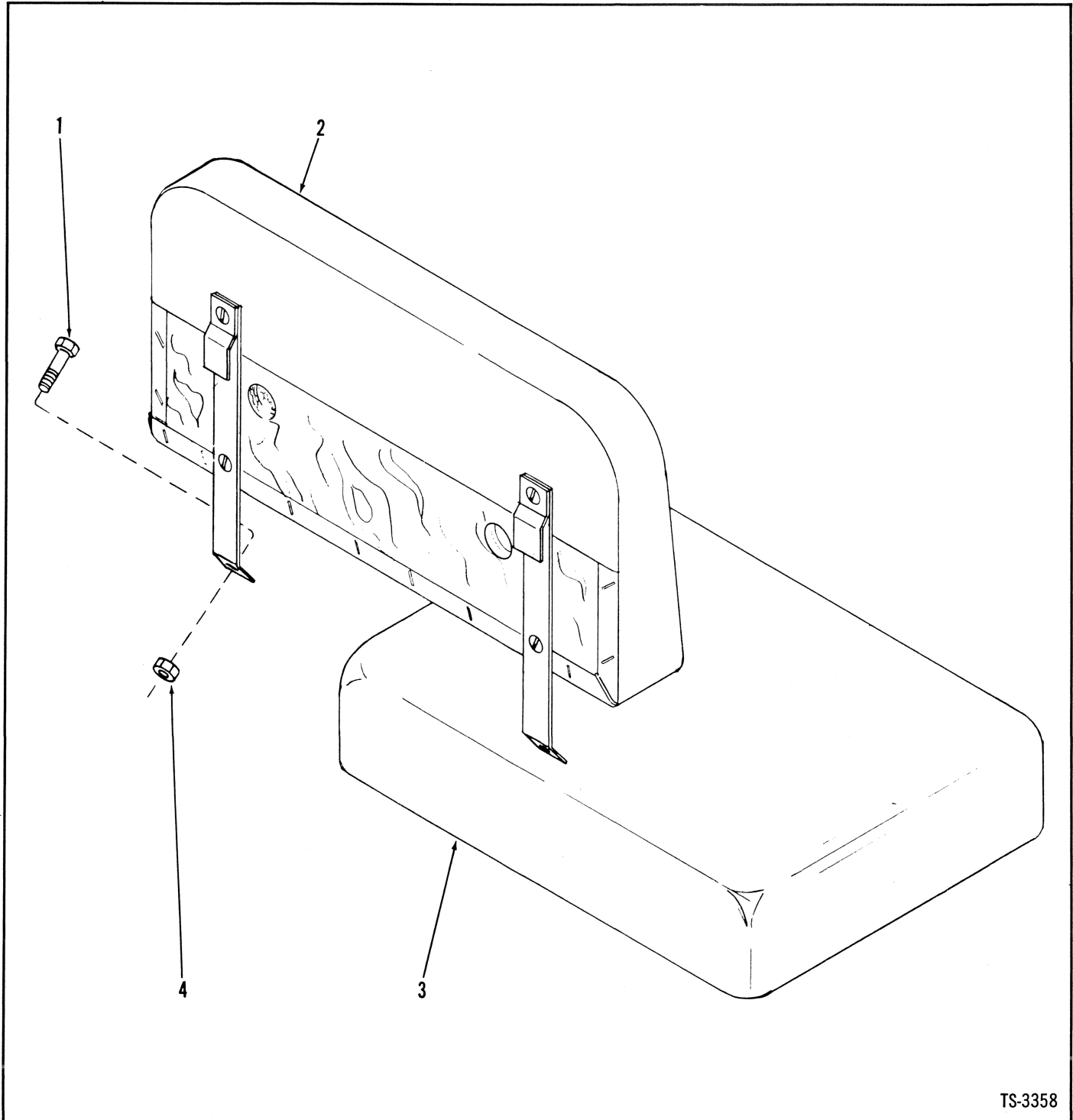
TS-10934

No.	Part No.	Qty.	Description
1	1512557	1	Canopy
2	6C-406	4	Screw
3	1515952	1	Plate
4	2505774	1	Decal ROPS
5	18D-16	4	Nut
6	1518432	4	Shim
7	24C-1664	4	Bolt



**Group S**

Seat & Supports .....S2  
Sheet Metal Group & Soundproofing .....S5  
Steering Controls .....S7



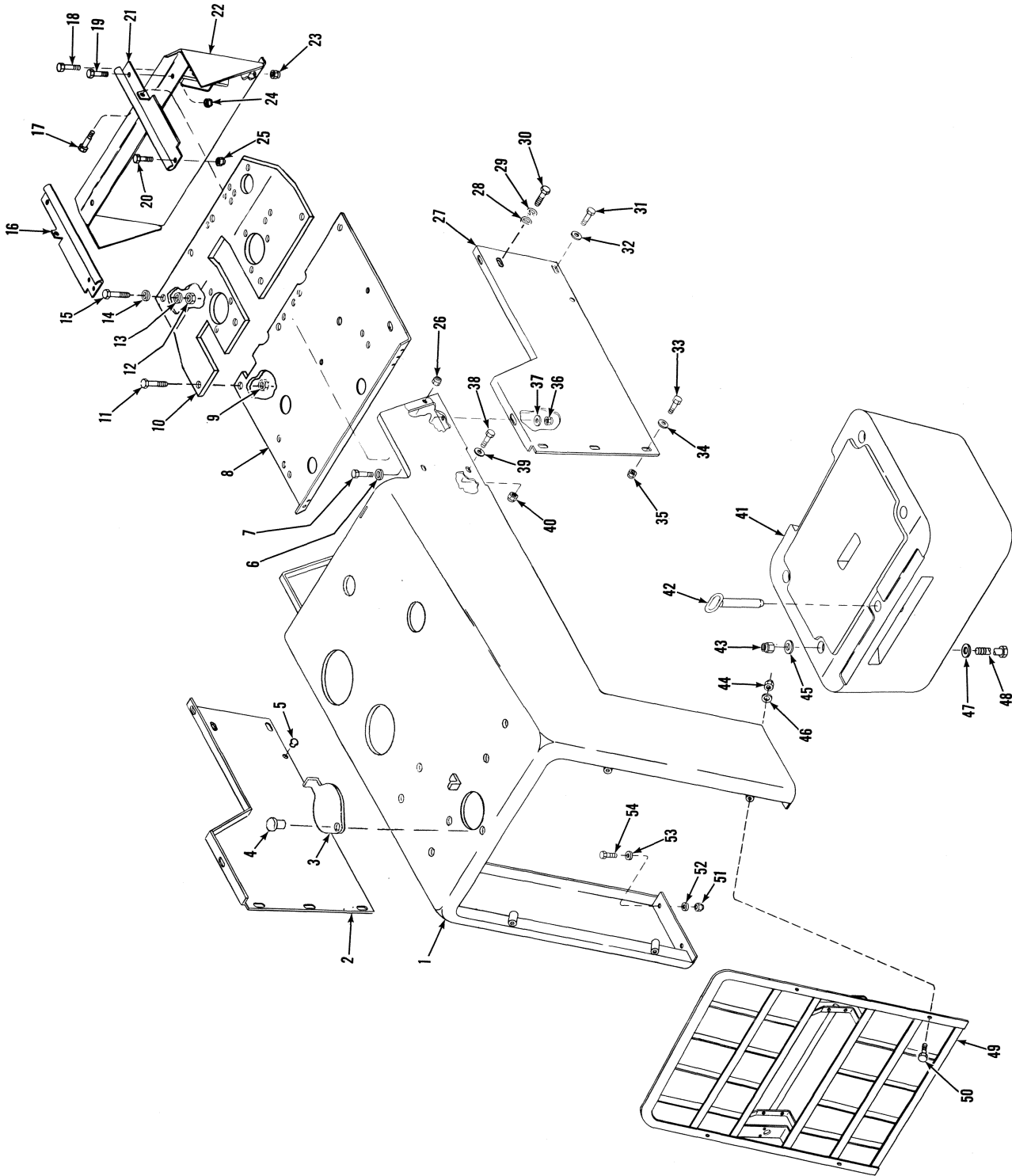
TS-3358

No.	Part No.	Qty.	Description
1	24C-616	2	Bolt
2	585638	1	Cushion back rest
3	585637	1	Cushion seat
4	18D-06	2	Nut
5	1-----	1	Belt seat

<sup>1</sup>See Index





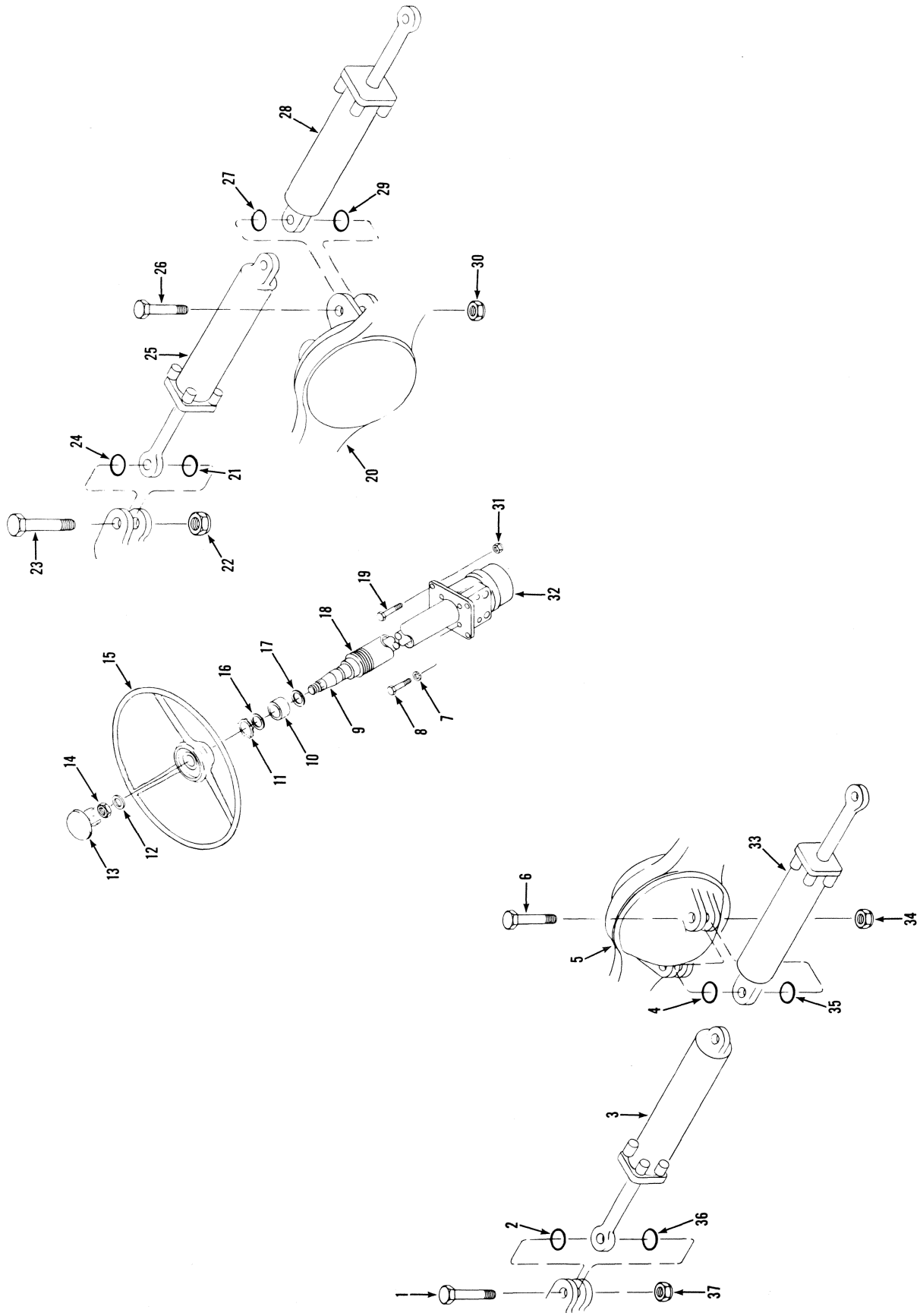


# Sheet Metal Group & Soundproofing

**MICHIGAN**

No.	Part No.	Qty.	Description
1	2510433	1	Hood
2	585650	1	Side panel LH
3	1544448	1	Cap
4	1H-508	1	Rivet
5	572444	2	Bumper
6	-----	—	Omit
7	24C-616	2	Bolt
8	2500321	1	Rear floorboard
9	18D-06	4	Nut
10	2500322	1	Front floorboard
10A	†2505459	1	Floormat front
11	24C-620	4	Bolt
12	18D-06	4	Nut
13	656672	4	Washer
14	25E-18	4	Washer
15	24C-620	4	Bolt
16	1517288	1	Cover plate LH
17	24C-616	2	Bolt
18	24C-616	3	Bolt
19	24C-616	2	Bolt
20	24C-616	2	Bolt
21	1516120	1	Cover plate RH
22	584114	1	Seat support
22A	†1515180	1	Insulation seat support
22B	†1515181	1	Insulation panel seat support
23	18D-06	3	Nut
24	18D-06	2	Nut
25	18D-06	2	Nut
26	18D-06	2	Nut
27	585334	1	Side panel RH
28	799058	2	Washer
29	-----	—	Omit
30	24C-616	2	Bolt
31	24C-616	2	Bolt
32	799058	2	Washer
33	24C-616	6	Bolt
34	799058	6	Washer
35	18D-06	6	Nut
36	18D-06	2	Nut
37	656672	2	Washer
38	24C-616	4	Bolt
39	799058	4	Washer
40	18D-06	4	Nut
41	558274	1	Counterweight
42	550586	1	Pin drawbar
43	18D-12	4	Nut
44	18D-06	4	Nut
45	25E-27	4	Washer
46	25E-17	4	Washer
47	652478	4	Washer
48	24C-12240	4	Bolt
49	585503	1	Grille radiator
50	24C-652	4	Bolt
51	70D-08	4	Nut
52	71D-08	4	Base
53	619029	4	Washer
54	24C-828	4	Bolt

†Inc. 2 & 3



# Steering Controls

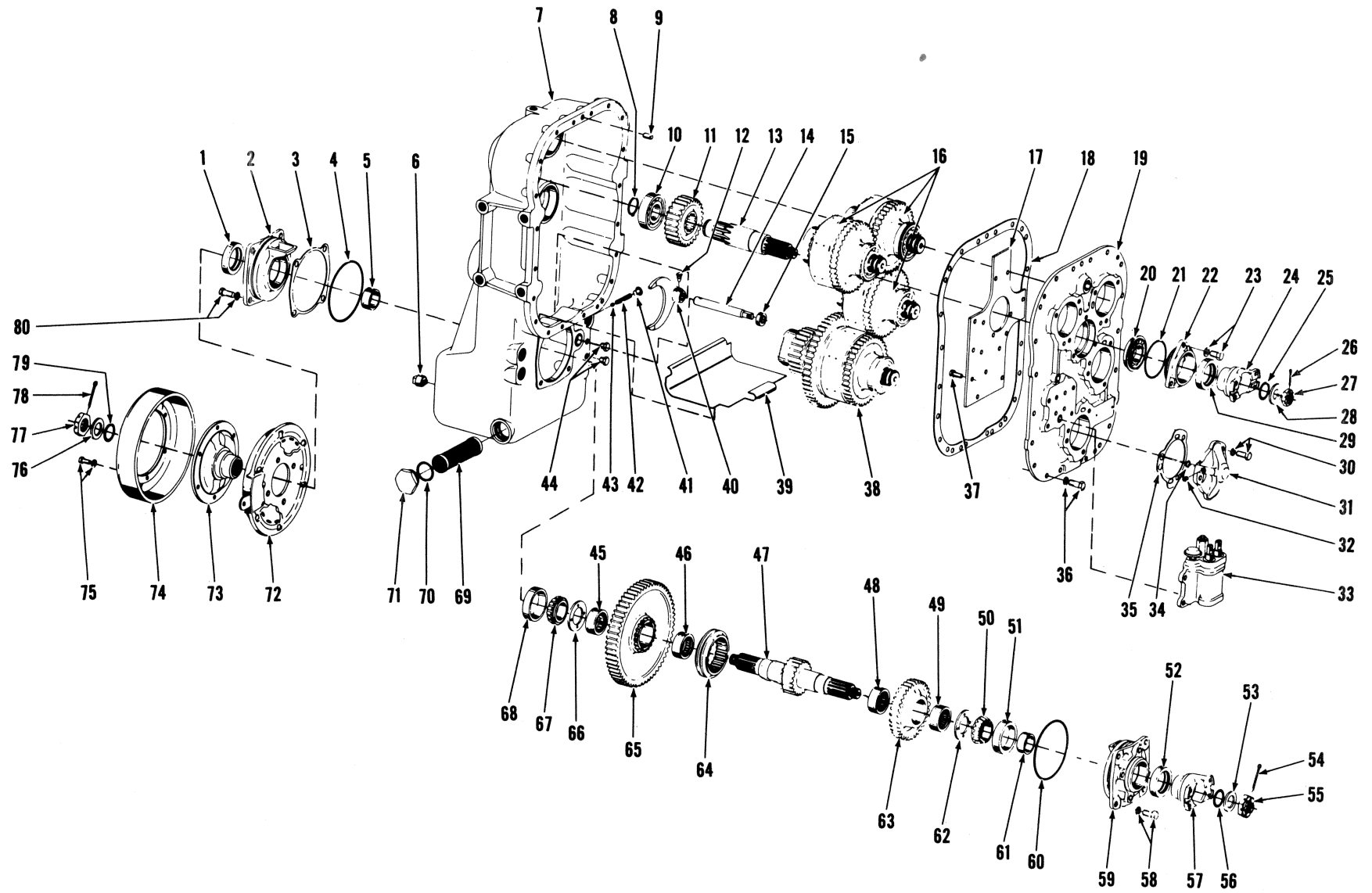
No.	Part No.	Qty.	Description
1	24C-1248	2	Bolt
2	58K-222	2	O-ring
3	<sup>1</sup> -----	1	Steering cylinder
4	58K-222	2	O-ring
5	<sup>1</sup> -----	1	Axle rear
6	24C-1256	2	Bolt
7	4E-06	4	Lockwasher
8	23C-616	4	Bolt
9	3233205	1	Steering shaft
10	3233204	1	Bearing
11	710886	1	Circlip
12	851771	1	Washer
13	602104	1	Cover
14	8D-08	1	Nut
15	604323	1	Steering wheel
16	3233210	1	Thrust washer
17	3233210	1	Thrust washer
18	1517380	1	Steering column
19	24C-624	4	Bolt
20	<sup>1</sup> -----	1	Axle rear
21	58K-222	2	O-ring
22	18D-12	2	Nut
23	24C-1248	2	Bolt
24	58K-222	2	O-ring
25	<sup>1</sup> -----	1	Steering cylinder
26	24C-1256	2	Bolt
27	58K-222	2	O-ring
28	<sup>1</sup> -----	1	Steering cylinder
29	58K-222	2	O-ring
30	18D-12	2	Nut
31	18D-06	4	Nut
32	<sup>1</sup> -----	1	Valve steering control
33	<sup>1</sup> -----	1	Steering cylinder
34	18D-12	2	Nut
35	58K-222	2	O-ring
36	58K-222	2	O-ring
37	18D-12	2	Nut

<sup>1</sup>See Index



**Group T**

Transmission Assembly .....T3  
Transmission Clutch Group – Forward, Reverse & Low .....T4  
Transmission Clutch Group – High .....T5  
Transmission Controls .....T7





# Transmission Assembly

**MICHIGAN**

No.	Part No.	Qty.	Description
A	284177	1	Transmission assy
1	206864	1	Seal
2	215155	1	Cap
3	<sup>3</sup> 215156	—	Shim
3A	<sup>4</sup> 215157	—	Shim
3B	<sup>5</sup> 215158	—	Shim
4	25K-40524	1	O-ring
5	215162	1	Spacer
6	215757	1	Plug
7	<sup>6</sup> 801363	1	Case kit
7A	<sup>†</sup> 206864	1	Seal
7B	<sup>†</sup> 218353	1	Plug
7C	<sup>†</sup> 14F-16	3	Plug
8	659065	1	Ring snap
9	214295	2	Dowel pin
10	225603	1	Bearing
11	<sup>7</sup> 215166	1	Gear
12	201566	1	Lock screw
13	215165	1	Shaft input
14	215145	1	Shift rail
15	234653	1	Seal
16	1-----	3	Clutch group
17	215143	1	Oil circuit plate
18	215144	1	Gasket
19	215141	1	Cover assy
20	225824	1	Bearing
21	25K-40316	1	O-ring
22	<sup>8</sup> 215198	1	Cap assy
23	1C-718	3	Bolt
23A	<sup>†</sup> 4E-07	3	Lockwasher
24	214940	1	Flange input
25	25K-40112	1	O-ring
26	1F-428	1	Pin cotter
27	201951	1	Nut
28	102745	1	Washer
29	206864	1	Seal
30	1C-718	12	Bolt
30A	<sup>†</sup> 4E-07	12	Lockwasher
31	215163	4	Bearing cap
32	16F-02	4	Plug
33	1-----	1	Valve trans control
34	25K-30016	4	O-ring
35	215164	4	Gasket
36	1C-718	20	Bolt
36A	4E-07	20	Lockwasher
37	233128	15	Bolt

No.	Part No.	Qty.	Description
38	1-----	1	Clutch group
39	228943	1	Baffle plate
40	215146	1	Shift fork
41	40K-04	1	Plug
42	215191	1	Spring
43	10J-12	1	Ball
44	40K-02	2	Plug
45	225079	1	Bearing
46	225079	1	Bearing
47	215551	1	Shaft output
48	225079	1	Bearing
49	225079	1	Bearing
50	675548	1	Cone
51	675544	1	Cup
52	206864	1	Seal
53	102745	1	Washer
54	1F-428	1	Pin cotter
55	201951	1	Nut
56	25K-40112	1	O-ring
57	214987	1	Flange output
58	1C-820	4	Bolt
58A	<sup>†</sup> 5E-08	4	Lockwasher
59	215155	1	Cap
60	25K-40524	1	O-ring
61	215162	1	Spacer
62	215154	1	Washer
63	<sup>9</sup> 215152	1	Gear assy
64	215149	1	Hub shift
65	<sup>10</sup> 215150	1	Gear assy
66	215154	1	Washer
67	675548	1	Cone
68	675544	1	Cup
69	215205	1	Screen
70	219373	1	Gasket
71	219370	1	Plug
72	1-----	1	Parking brake
73	215161	1	Flange
74	215160	1	Drum brake
75	2C-612	6	Bolt
75A	4E-06	6	Lockwasher
76	102745	1	Washer
77	201951	1	Nut
78	1F-428	1	Pin cotter
79	25K-40112	1	O-ring
80	1C-820	4	Bolt
80A	<sup>†</sup> 5E-08	4	Lockwasher

<sup>1</sup>See Index

<sup>2</sup>(2420-69) Inc. 1 → 80

<sup>3</sup>.004", 0,10 mm

<sup>4</sup>.007", 0,18 mm

<sup>5</sup>.010", 0,25 mm

<sup>6</sup>Inc. 7A, 7B, 7C

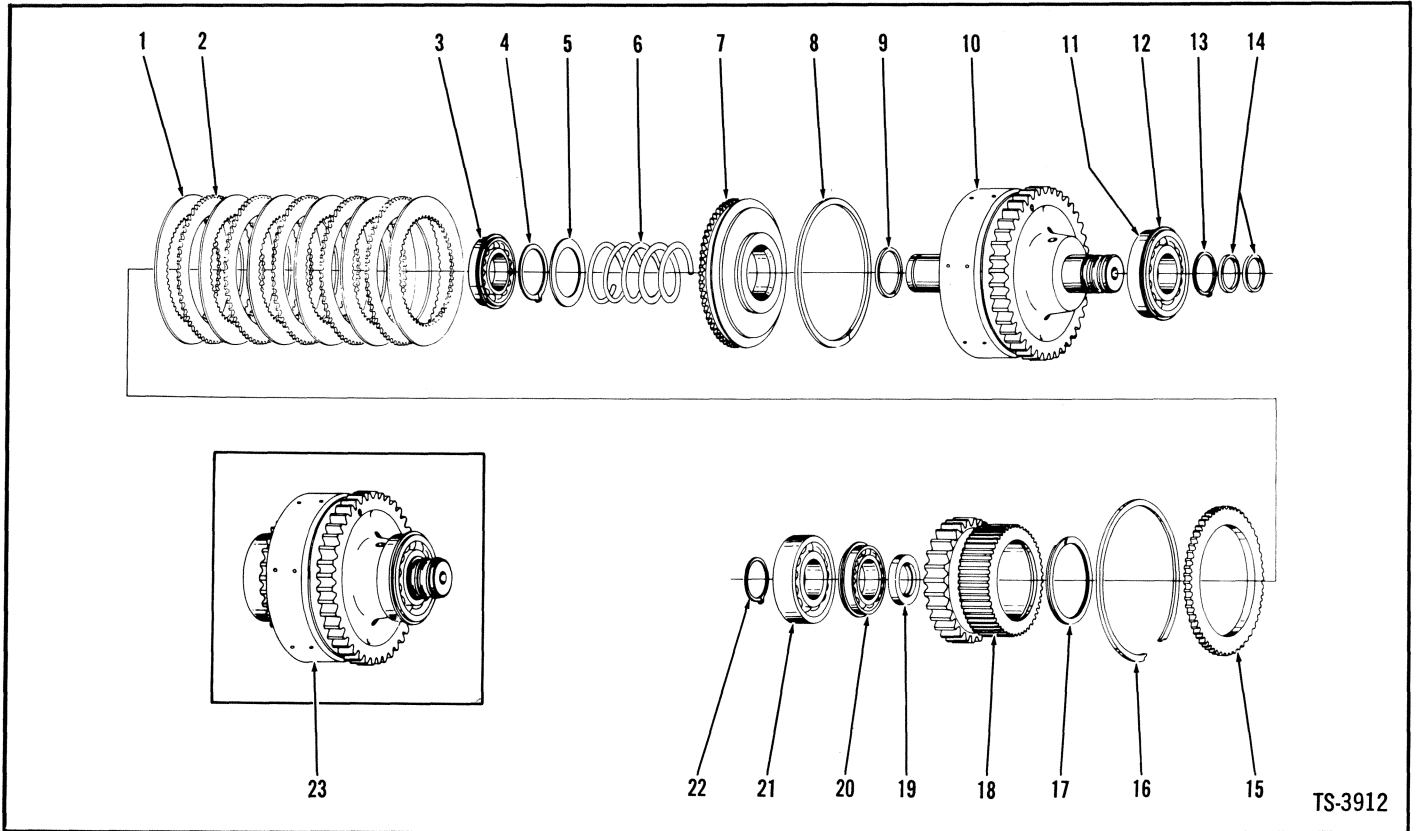
<sup>7</sup>(26T)

<sup>8</sup>Inc. 29

<sup>9</sup>(34T) Inc. 48, 49

<sup>10</sup>(61T) Inc. 45, 46

# Transmission Clutch Group – Forward, Reverse & Low



No.	Part No.	Qty.	Description
1	215178	6	Disc inner
2	224772	5	Disc outer
3	225076	1	Bearing
4	654613	1	Ring
5	616848	1	Washer
6	215179	1	Spring
7	215177	1	Piston
8	224771	1	Ring
9	223085	1	Ring
10	215663	1	Drum & gear assy
10A	†215176	1	Seat
10B	†10J-06	1	Ball
11	225602	1	Bearing
12	945374	1	Ring
13	659065	1	Ring
14	215183	2	Ring
15	224774	1	Plate
16	215190	1	Ring
17	225077	1	Ring
18	3215180	1	Gear & hub assy
19	215182	1	Spacer
20	225076	1	Bearing
21	225603	1	Bearing
22	659065	1	Ring
23	§4-----	—	Clutch assy

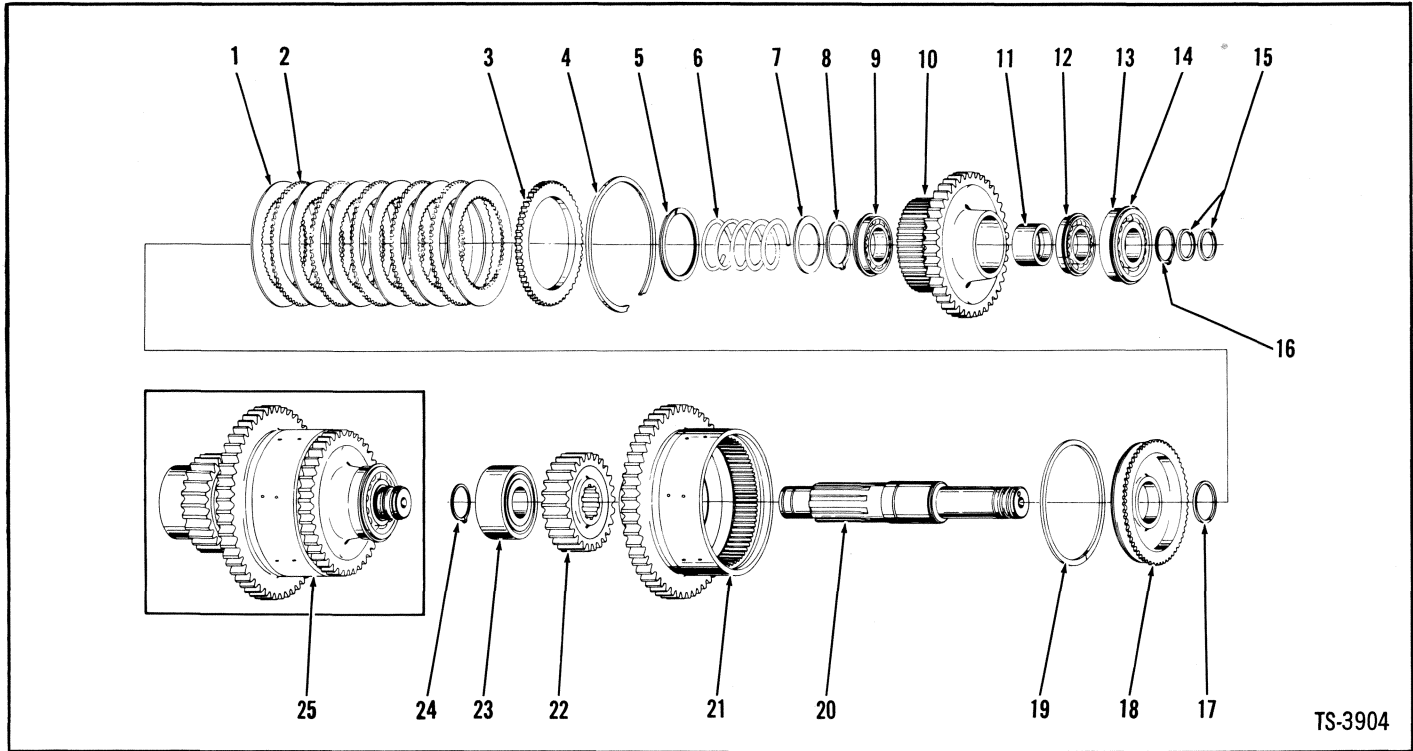
†(40T) Inc. 10A, 10B

‡Inc. 12

³(28T)

§Not sold as an Assembly – Order individual items. This group used three (3) times in transmission – Quantities listed are for one (1) Clutch Group.

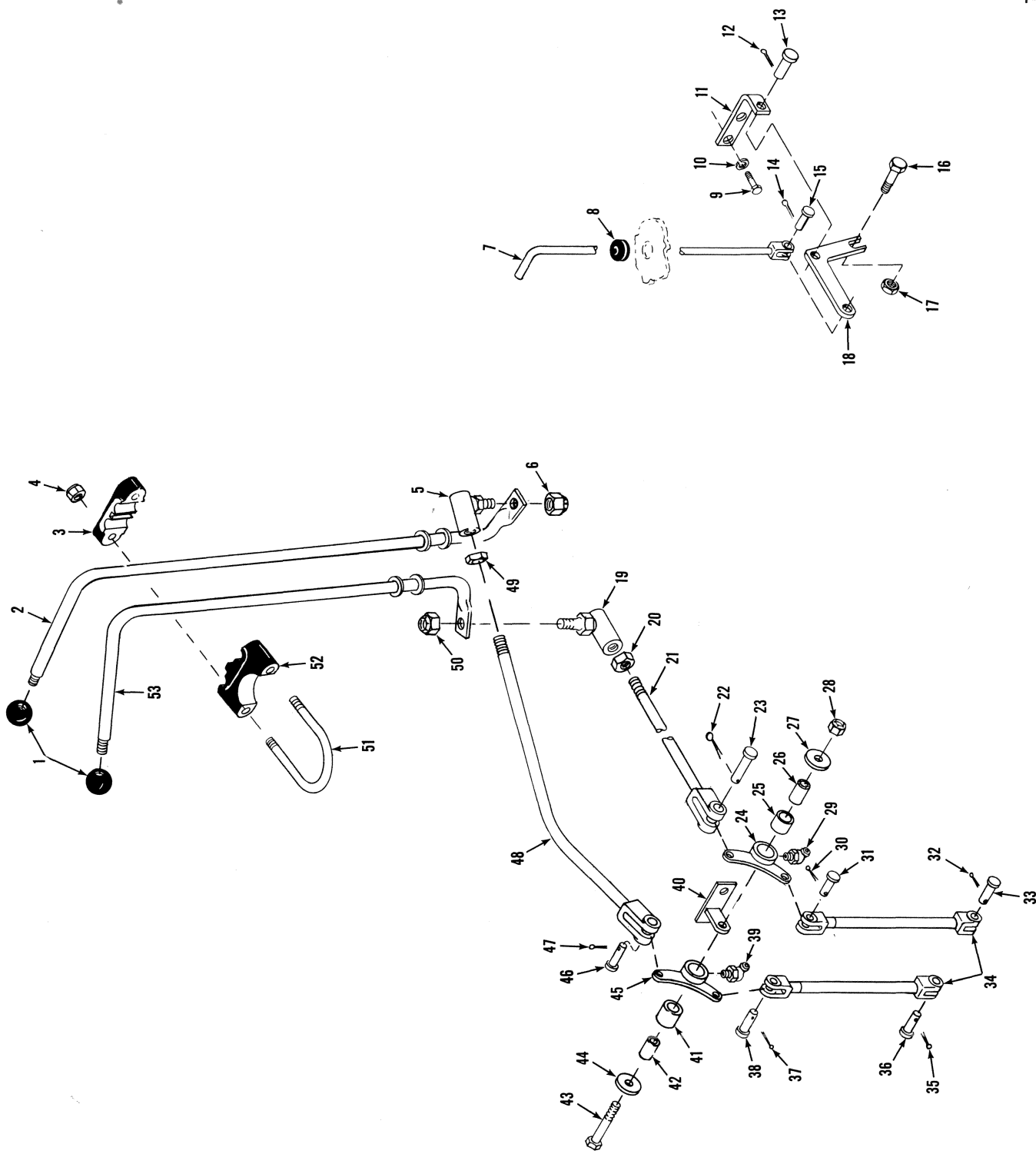
# Transmission Clutch Group – High



TS-3904

No.	Part No.	Qty.	Description
1	215178	6	Disc inner
2	224772	5	Disc outer
3	224774	1	Plate
4	215190	1	Ring
5	225077	1	Ring
6	215179	1	Spring
7	616848	1	Washer
8	654613	1	Ring
9	225076	1	Bearing
10	215188	1	Gear & hub assy
11	215189	1	Spacer
12	225076	1	Bearing
13	225602	1	Bearing
14	945374	1	Ring
15	215183	2	Ring
16	659065	1	Ring
17	223085	1	Ring
18	215177	1	Piston
19	224771	1	Ring
20	215184	1	Shaft
21	227952	1	Drum & gear assy
21A	215176	1	Seat
21B	10J-06	1	Ball
22	215166	1	Gear
23	799595	1	Bearing
24	659065	1	Ring
25	§5-----	—	Clutch assy

<sup>1</sup>(40T)  
<sup>2</sup>Inc. 14  
<sup>3</sup>(53T) Inc. 21A, 21B  
<sup>4</sup>(26T)  
<sup>5</sup>Not sold as an Assembly – Order individual items.



# Transmission Controls

No.	Part No.	Qty.	Description
1	509772	2	Knob
2	585498	1	Ctrl lever fwd & rev
3	<sup>2</sup> 1508845	2	Support
4	18D-05	4	Nut
5	1301362	1	Balljoint
6	18D-06	1	Nut
7	585764	1	Rod assy
8	585309	1	Grommet
9	24C-816	2	Bolt
10	4E-08	2	Lockwasher
11	1524006	1	Bracket
12	1F-312	1	Pin cotter
13	4F-06106	1	Pin clevis
14	1F-312	1	Pin cotter
15	4F-06106	1	Pin clevis
16	24C-624	1	Bolt
17	18D-06	1	Nut
18	1524005	1	Bellcrank
19	1301362	1	Balljoint
20	8D-06	1	Nut
21	<sup>3</sup> 585494	1	Rod assy
22	1F-312	1	Pin cotter
23	4F-06106	1	Pin clevis
24	585500	1	Bellcrank
25	585597	1	Bushing
26	585596	1	Sleeve
27	616795	1	Washer
28	18D-08	1	Nut
29	11H-15	1	Fitting grease
30	1F-312	1	Pin cotter
31	4F-06106	1	Pin clevis
32	1F-312	1	Pin cotter
33	4F-06106	1	Pin clevis
34	585306	2	Rod assy
35	1F-312	1	Pin cotter
36	4F-06106	1	Pin clevis
37	1F-312	1	Pin cotter
38	4F-06106	1	Pin clevis
39	11H-15	1	Fitting grease
40	586132	1	Bracket
40A	<sup>†</sup> 23C-724	2	Bolt
41	585597	1	Bushing
42	585596	1	Sleeve
43	24C-856	1	Bolt
44	616795	1	Washer
45	585500	1	Bellcrank
46	4F-06106	1	Pin clevis
47	1F-312	1	Pin cotter
48	<sup>4</sup> 585492	1	Rod assy
49	8D-06	1	Nut
50	18D-06	1	Nut
51	550672	2	U-bolt
52	1508845	2	Support
53	585497	1	Ctrl lever 4 speed

<sup>2</sup>Inc. 52

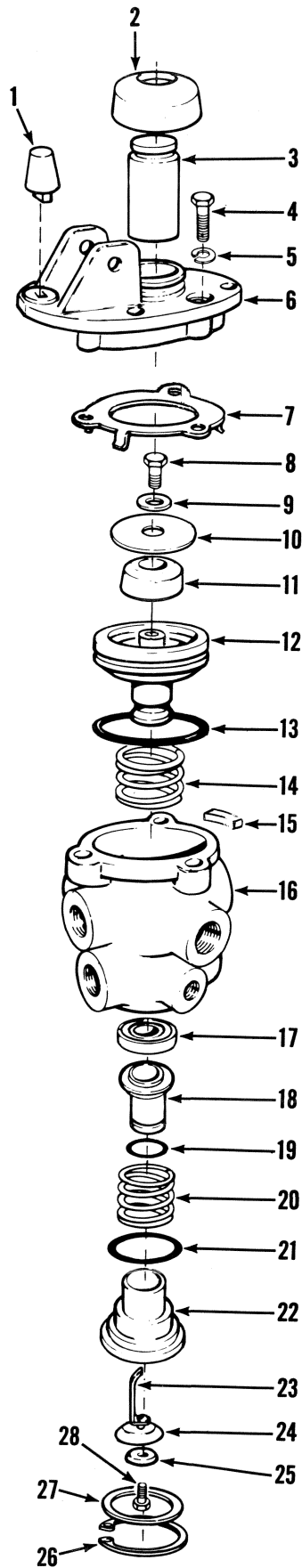
<sup>3</sup>Inc. 19, 20

<sup>4</sup>Inc. 5, 49



**Group V**

Valve Assembly, Air Brake .....V3  
Valve Assembly, Bucket Leveler .....V4  
Valve Assembly, Four Wheel Steer Selector .....V5  
Valve Assembly, Main .....V7  
Valve Assembly, Steering Control .....V9  
Valve Assembly, Steering Pressure Relief .....V10  
Valve Assembly, Transmission Control .....V13  
Valve Controls – Main .....V14  
Valve Controls – Steering Selector .....V15



TS-11001



# Valve Assembly, Air Brake

**MICHIGAN**

No.	Part No.	Qty.	Description
A	<sup>1</sup> 945996	2	Valve assy
B	<sup>2</sup> 3290125	1	Repair kit
C	<sup>3</sup> 3290124	1	Repair kit
D	<sup>4</sup> 3290099	1	Repair kit
E	<sup>5</sup> 3290106	1	Repair kit
1	513932	1	Stop rubber
2	875762	1	Boot
3	3290122	1	Plunger
4	1C-520	3	Bolt
5	4E-05	3	Lockwasher
6	949260	1	Plate
7	894543	1	Retainer
8	21C-410	1	Bolt
9	894542	1	Washer
10	894541	1	Valve seat
11	894540	1	Spring
12	894539	1	Piston
13	25K-40204	1	O-ring
14	875754	1	Spring
15	949261	1	Filter
16	3290105	1	Body
17	894537	1	Retainer
18	894538	1	Valve
19	25K-20020	1	O-ring
20	894536	1	Spring
21	25K-30112	1	O-ring
22	894535	1	Valve seat
23	894534	1	Spring
24	894533	1	Diaphragm
25	894532	1	Washer
26	661415	1	Ring
27	949264	1	Washer
28	87G-806	1	Screw

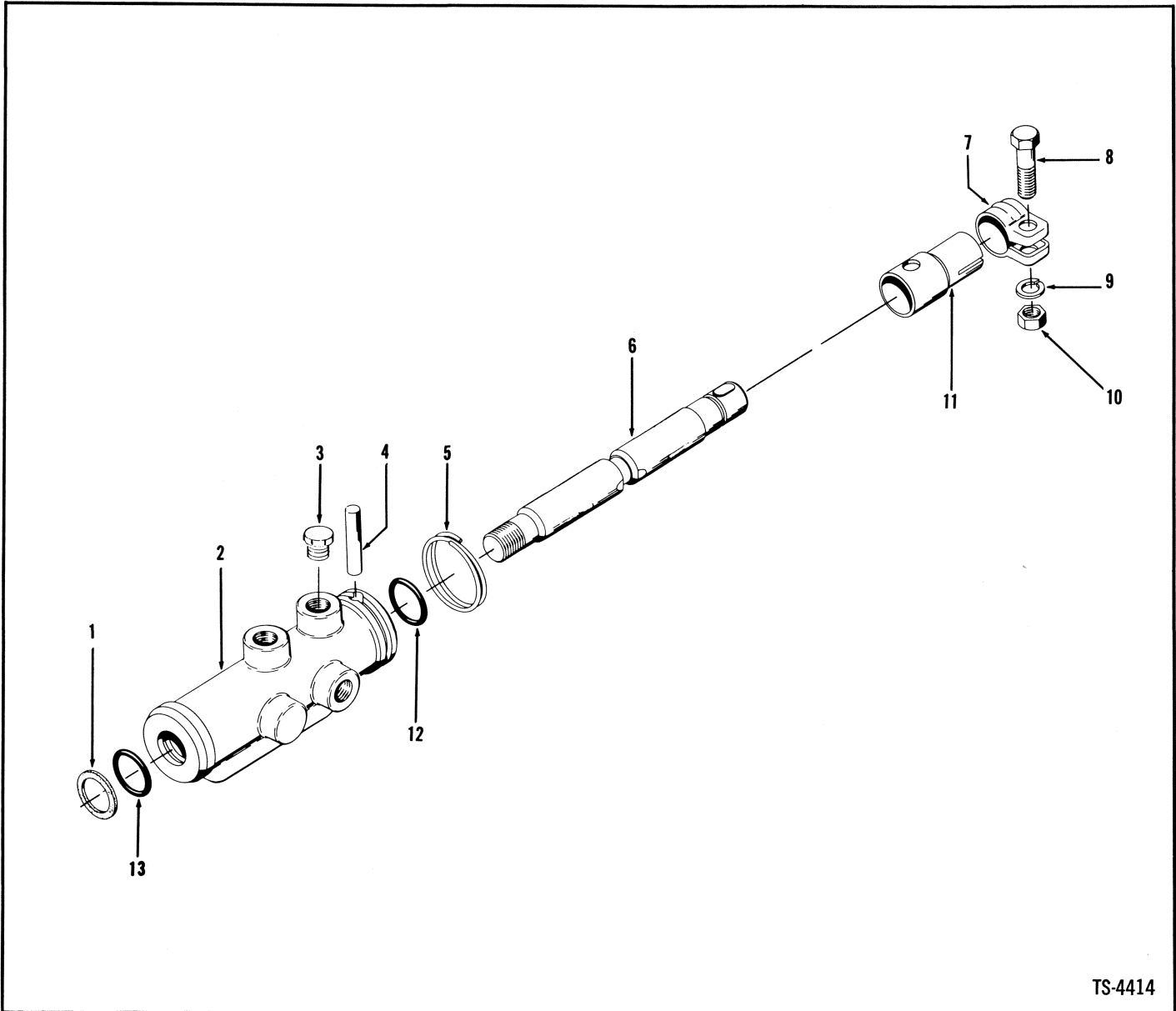
<sup>1</sup>Inc. 1→28 Two (2) Valves used on machine. Quantities listed are for one (1) Valve.

<sup>2</sup>Inc. 1, 2, 11, 13→15, 18→21, 23, 24

<sup>3</sup>Inc. 1, 2, 18, 19, 21, 24

<sup>4</sup>Inc. 8→12

<sup>5</sup>Inc. 17→25, 28



TS-4414

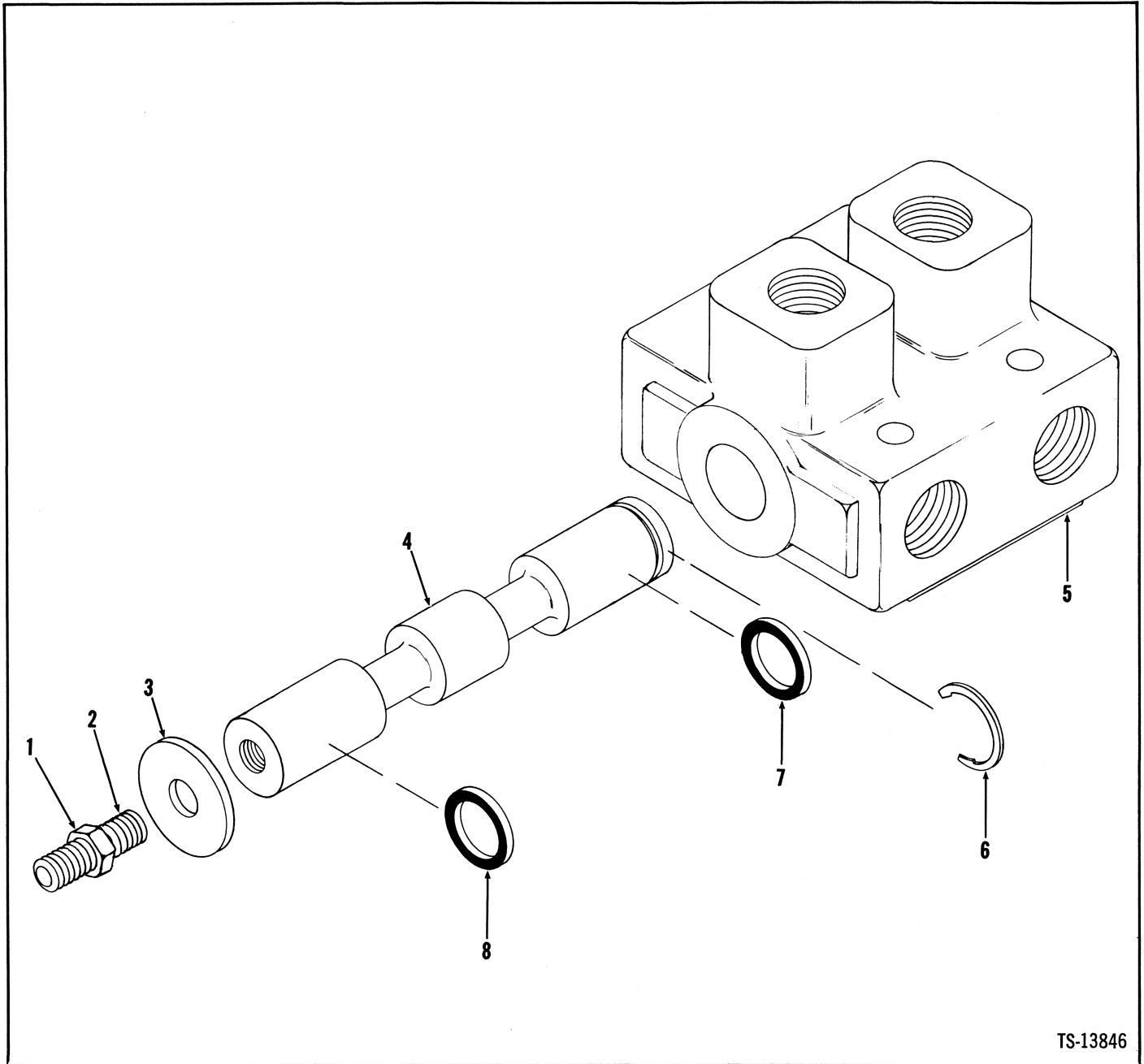
No.	Part No.	Qty.	Description
A	1586420	1	Valve assy
1	945409	1	Washer
2	§ <sup>2</sup> -----	1	Body
3	40K-04	1	Plug
4	601938	1	Dowel
5	945407	1	Ring
6	§ <sup>2</sup> -----	1	Spool
7	100744	1	Clamp
8	2C-520	1	Bolt
9	4E-05	1	Lockwasher
10	62D-05	1	Nut
11	945408	1	Sleeve
12	945411	1	O-ring
13	945411	1	O-ring

<sup>1</sup>Incl. 1→13

<sup>2</sup>See A

# Valve Assembly, Four Wheel Steer Selector

**MICHIGAN**

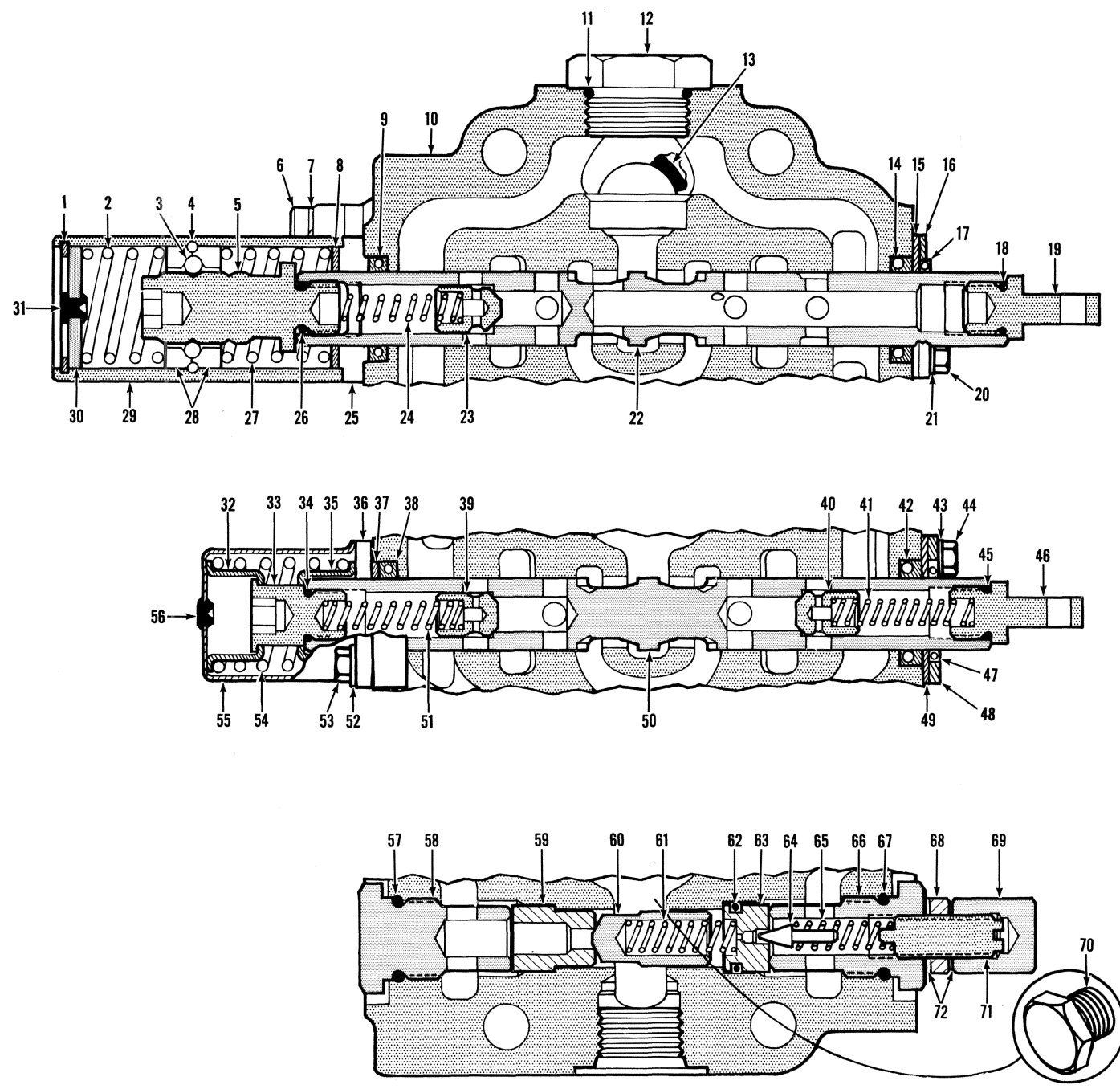


TS-13846

No.	Part No.	Qty.	Description
A	2546181	1	Valve assy
1	8D-06	1	Nut
2	3290585	1	Stud
3	3290584	1	Washer
4	§ <sup>2</sup> -----	—	Spool
5	§ <sup>2</sup> -----	—	Housing
6	3290583	1	Retaining ring
7	58K-214	1	Seal
8	58K-214	1	Seal

<sup>2</sup>Incl. 1 → 8

<sup>3</sup>See A



# Valve Assembly, Main

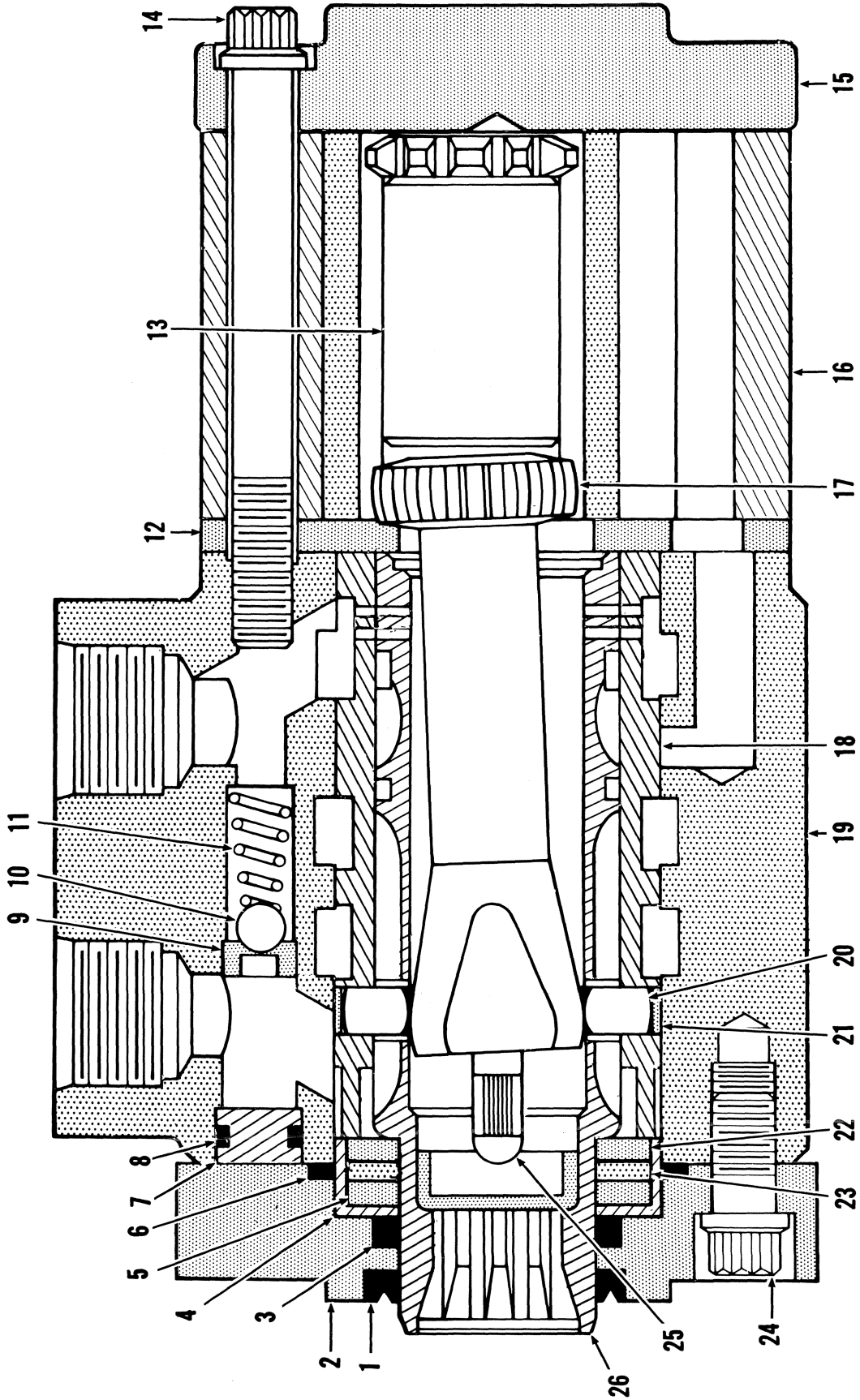
No.	Part No.	Qty.	Description
A	<sup>2</sup> 2510880	1	Valve assy
B	<sup>3</sup> 960973	1	Detent assy
1	755855	1	Ring
2	945356	1	Spring
3	10J-06	15	Ball
4	945359	1	Ring
5	945357	1	Cap
6	11G-520	2	Bolt
7	4E-08	2	Lockwasher
8	961007	1	Spacer
9	961004	1	Seal
10	§ <sup>4</sup> -----	—	Housing
11	91F-10	1	O-ring
12	24K-10	1	Cap
13	25K-40106	1	O-ring
14	961004	1	Seal
15	960966	1	Plate
16	960967	1	Plate
17	960968	1	Wiper
18	25K-30014	1	O-ring
19	945226	1	Eye
20	1C-512	2	Bolt
21	4E-05	2	Lockwasher
22	§ <sup>4</sup> -----	—	Plunger
23	945590	1	Check
24	871388	1	Spring
25	960971	1	Plate
26	25K-30014	1	O-ring
27	945358	1	Spring
28	886758	2	Retainer
29	960974	1	Cover
30	886762	1	Plug
31	886763	1	Plug
32	888451	1	Retainer
33	888456	1	Cap
34	25K-30014	1	O-ring
35	888451	1	Retainer

No.	Part No.	Qty.	Description
36	960972	1	Plate
37	961006	1	Ring
38	961004	1	Seal
39	945590	1	Check
40	945590	1	Check
41	945503	1	Spring
42	961004	1	Seal
43	4E-05	2	Lockwasher
44	1C-512	2	Bolt
45	25K-30014	1	O-ring
46	945226	1	Eye
47	960968	1	Wiper
48	960967	1	Plate
49	960966	1	Plate
50	§ <sup>4</sup> -----	—	Plunger
51	871388	1	Spring
52	4E-05	2	Lockwasher
53	1C-512	2	Bolt
54	888455	1	Spring
55	886749	1	Cover
56	886745	1	Plug
57	58K-210	1	O-ring
58	980838	1	Cap
59	960963	1	Seat
60	960965	1	Check
61	947791	1	Spring
62	25K-30020	1	O-ring
63	960964	1	Seat
64	886739	1	Poppet
65	886753	1	Spring
66	980835	1	Cap
67	58K-210	1	O-ring
68	8D-08	1	Nut
69	49D-08	1	Nut
70	40K-04	1	Plug
71	980834	1	Screw
72	613750	2	Washer

<sup>2</sup>Incl. 1→72

<sup>3</sup>Incl. 1→8, 25→31

<sup>4</sup>See A



# Valve Assembly, Steering



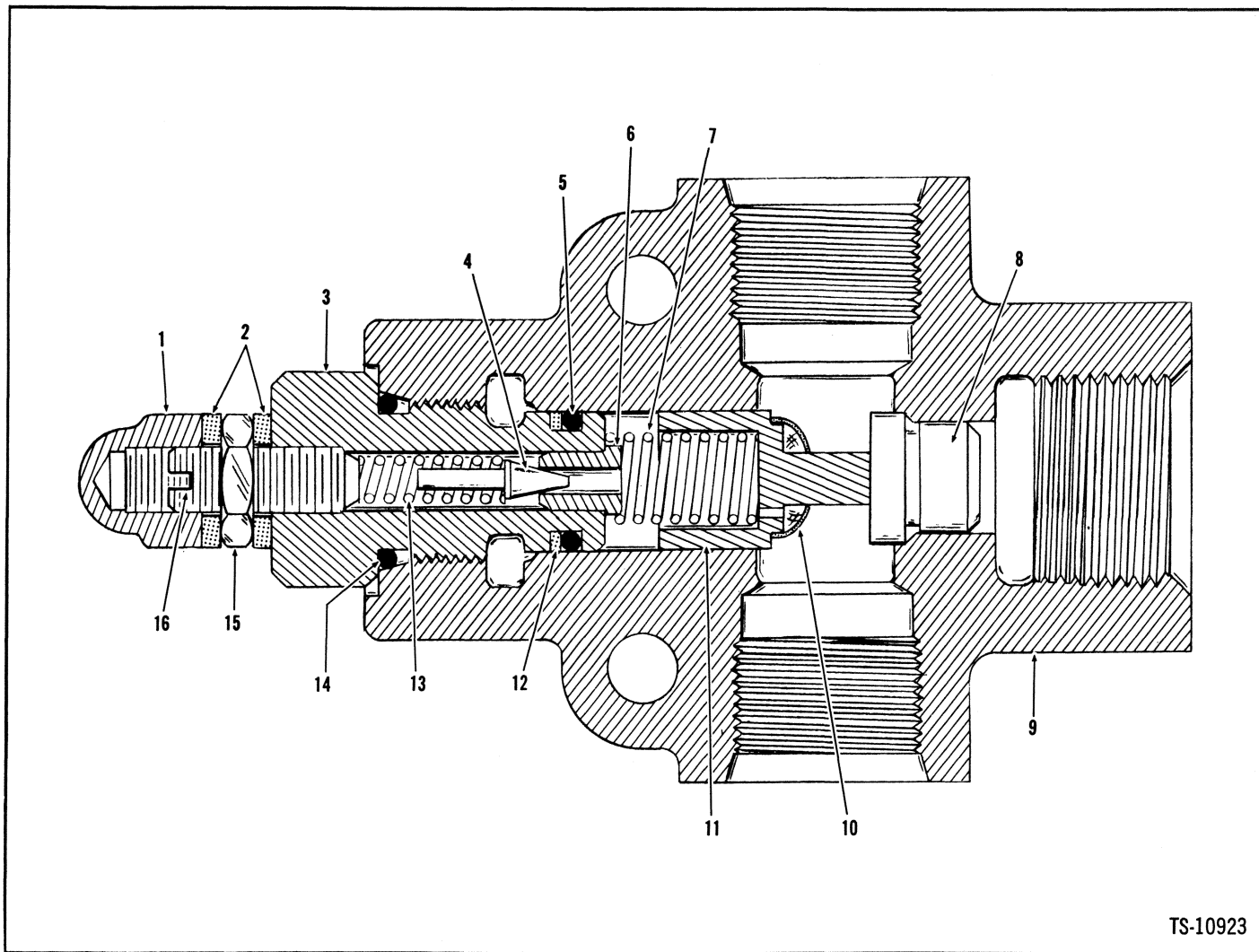
No.	Part No.	Qty.	Description
A	<sup>1</sup> 1514351	1	Valve assy
1	6517944	1	Seal
2	1567081	1	Plate
3	6517945	1	Seal
4	5200241	1	Bearing locator
5	5200240	1	Bearing race
6	6517946	1	Seal
7	991701	1	Plug
8	25K-20010	1	O-ring
9	991702	1	Seat
10	10J-08	1	Ball
11	1567072	1	Spring
12	1567084	1	Plate
13	5200205	1	Spacer
14	94G-540	7	Screw
15	1567080	1	Cap
16	949958	1	Gear set
17	1567085	1	Drive shaft
18	<sup>2</sup> 948831	1	Sleeve
19	§ <sup>3</sup> -----	—	Housing
20	896544	1	Pin
21	1567076	2	Disc
22	5200240	1	Bearing race
23	3292657	1	Bearing
24	71G-510	4	Screw
25	896497	6	Spring
26	§ <sup>4</sup> -----	—	Spool

<sup>1</sup>Inc. 1 → 26

<sup>2</sup>Inc. 26

<sup>3</sup>See A

<sup>4</sup>See 18



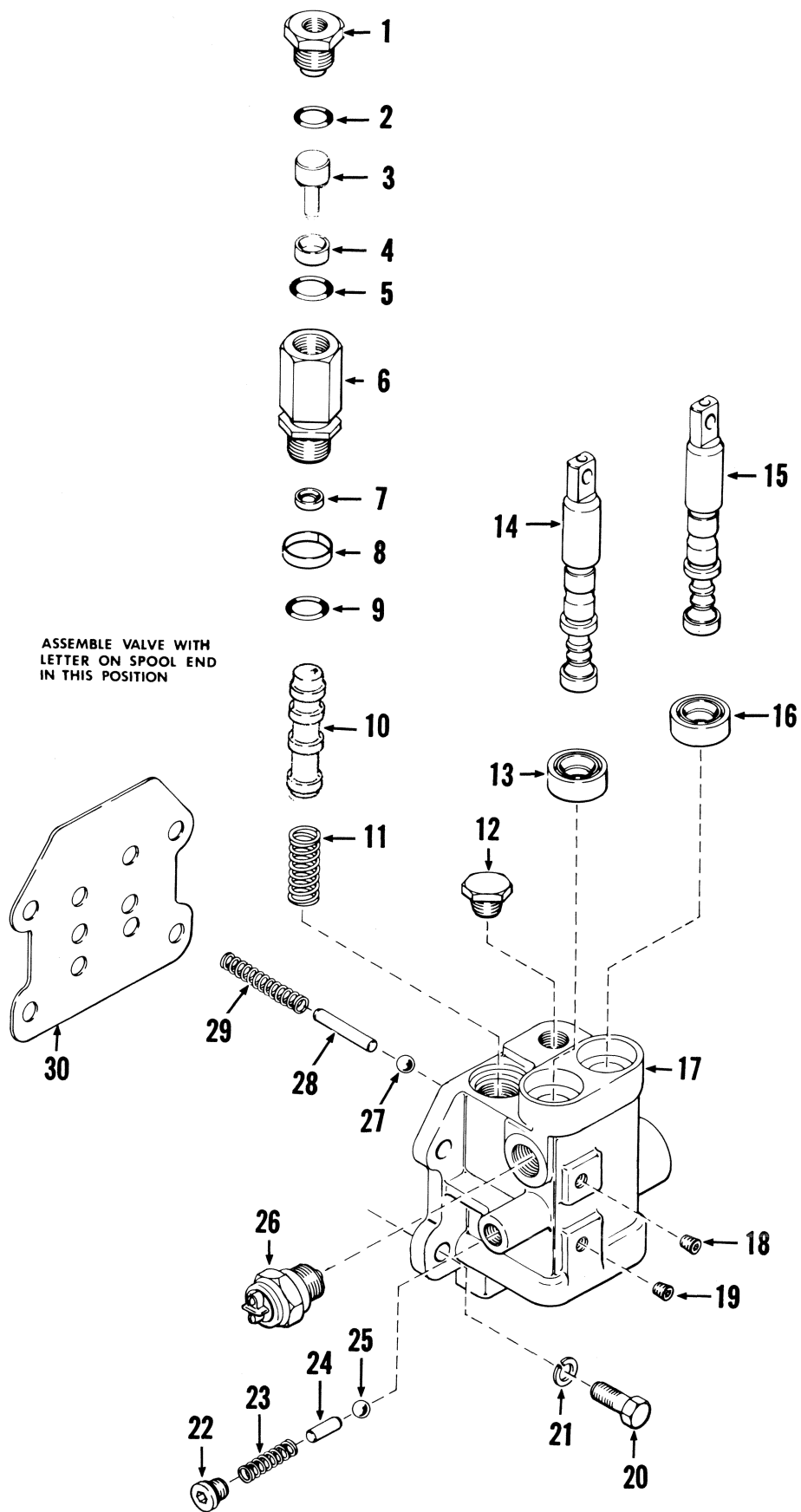
TS-10923

No.	Part No.	Qty.	Description
A	536539	1	Valve assy
1	47D-05	1	Nut
2	730396	2	Washer
3	944467	1	Cap
4	883734	1	Plunger
5	899039	1	O-ring
6	944469	1	Seat
7	944646	1	Spring
8	944645	1	Seat
9	§ <sup>2</sup> -----	—	Valve body
10	§ <sup>3</sup> -----	—	Screen poppet
11	944643	1	Poppet assy
12	899038	1	Ring back-up
13	944471	1	Spring
14	91F-6	1	O-ring
15	8D-05	1	Nut
16	33G-514	1	Set screw
17	†40K-02	2	Plug pipe

<sup>1</sup>Inc. 1→17  
<sup>2</sup>See A  
<sup>3</sup>See 11  
<sup>4</sup>Inc. 10







TS-13948

# Valve Assembly, Transmission Control

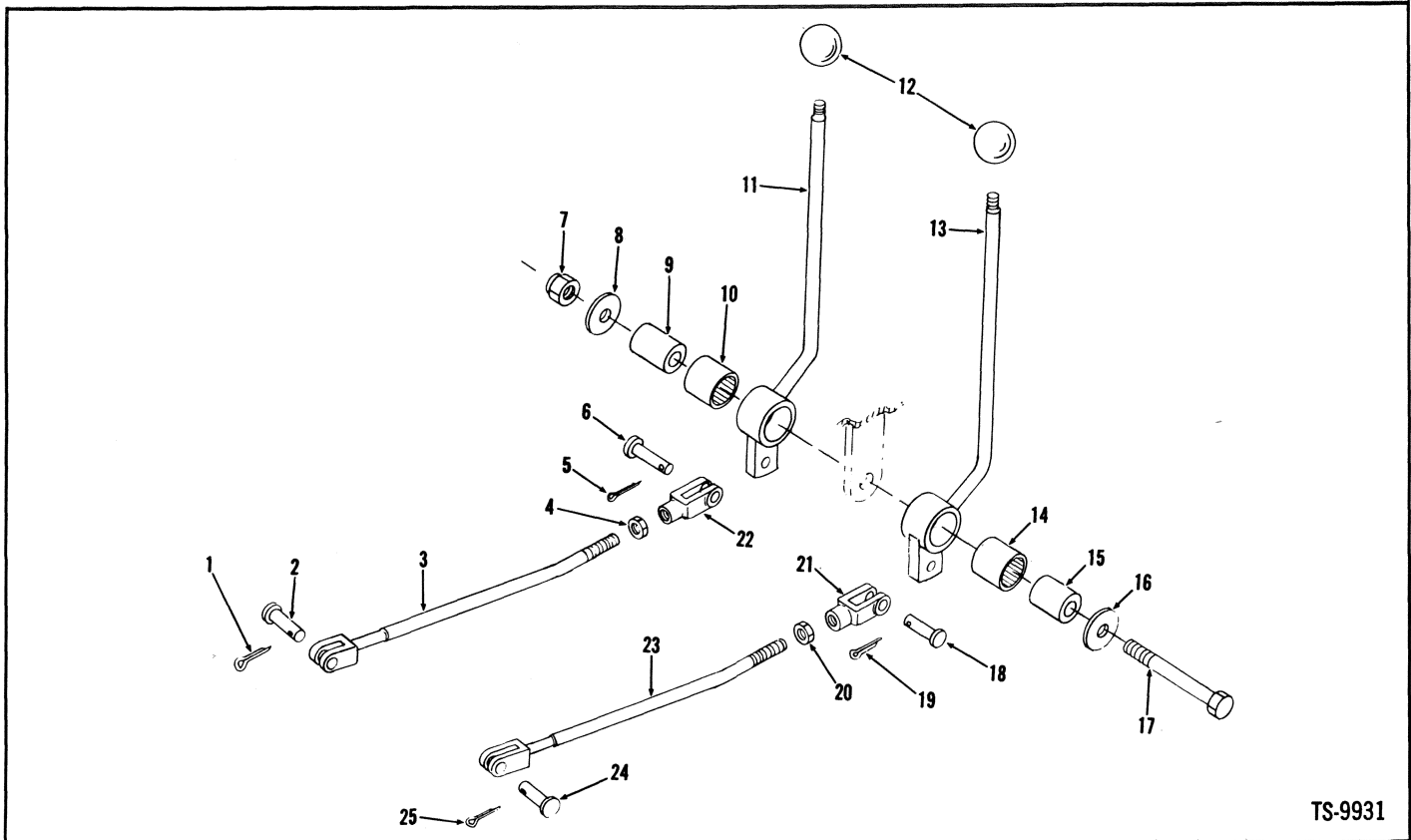
**MICHIGAN**

No.	Part No.	Qty.	Description
A	<sup>2</sup> 229011	1	Valve assy
1	217928	1	Cap
2	91F-8	1	O-ring
3	227674	1	Piston
4	227672	1	Ring
5	25K-30020	1	O-ring
6	<sup>3</sup> 219342	1	Declutch valve
7	229131	1	Seal
8	228931	1	Seal
9	25K-30022	1	O-ring
10	S <sup>4</sup> -----	—	Spool
11	219344	1	Spring
12	211433	1	Breather
13	234653	1	Seal
14	S <sup>4</sup> -----	—	Spool
15	S <sup>4</sup> -----	—	Spool
16	234653	1	Seal
17	S <sup>4</sup> -----	—	Housing
18	16F-01	1	Plug
19	16F-01	1	Plug
20	1C-718	4	Bolt
21	4E-07	4	Lockwasher
22	47K-3	1	Plug
23	202200	1	Spring
24	229010	1	Pin
25	10J-12	1	Ball
26	224620	1	Switch neutral start
27	10J-12	1	Ball
28	215194	1	Pin
29	215147	1	Spring
30	229009	1	Gasket

<sup>2</sup>Inc. 1→30

<sup>3</sup>Inc. 1→5, 7→9

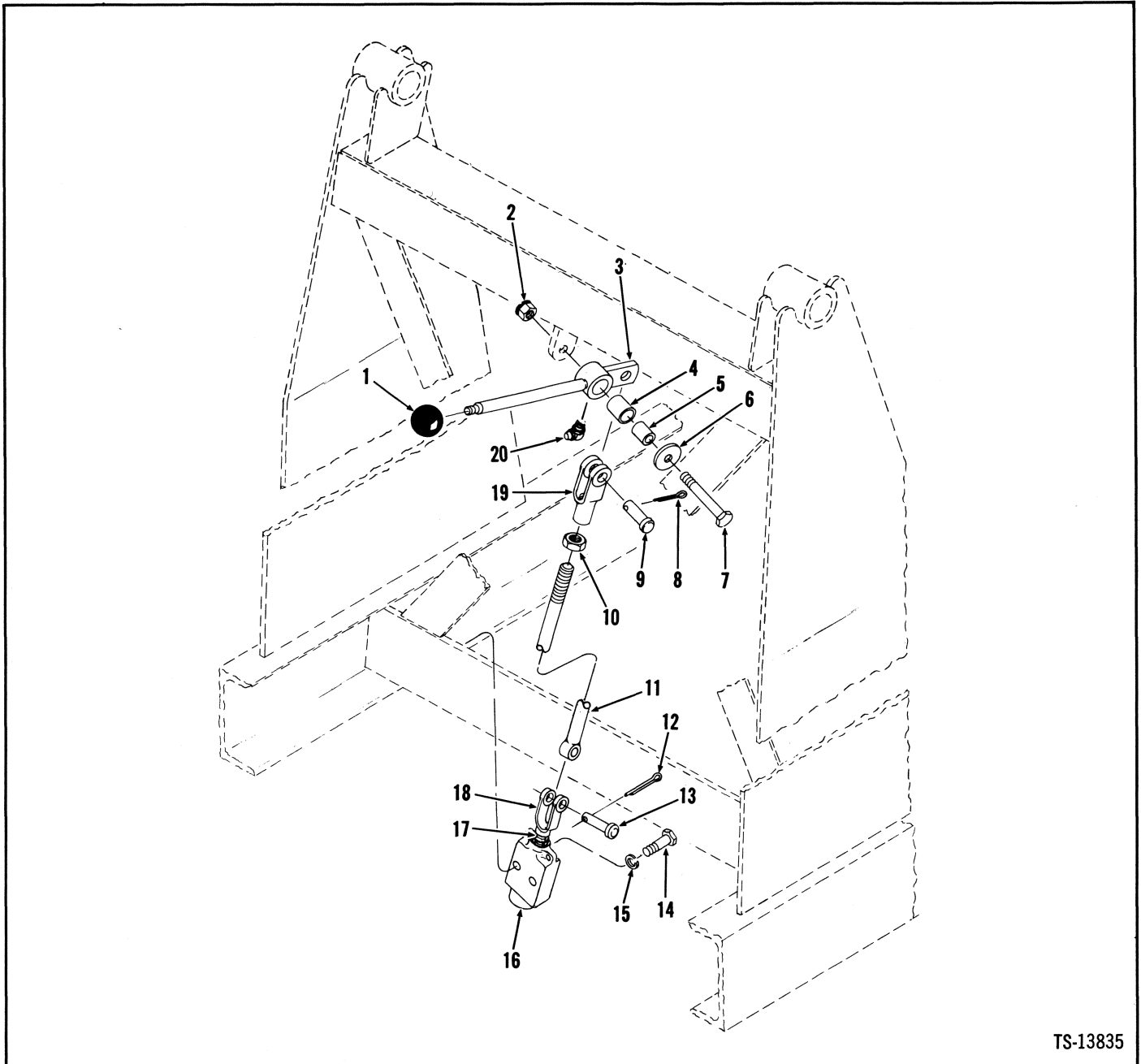
<sup>4</sup>See A. For correct operation of the de-clutch feature on this application, item 10 must be installed with the letter "R" in the upright position.



TS-9931

No.	Part No.	Qty.	Description
1	1F-316	1	Pin cotter
2	4F-05062	1	Pin clevis
3	585330	1	Rod assy
4	8D-06	1	Nut
5	1F-316	1	Pin cotter
6	4F-06106	1	Pin clevis
7	18D-08	1	Locknut
8	616795	1	Washer
9	1503251	1	Sleeve
10	675227	1	Bearing
10A	†1522535	2	Seal
11	585601	1	Lever bucket
12	509772	2	Knob
13	585599	1	Lever boom
14	675227	1	Bearing
14A	†1522535	2	Seal
15	1503251	1	Sleeve
16	616795	1	Washer
17	24C-868	1	Bolt
18	4F-06106	1	Pin clevis
19	1F-316	1	Pin cotter
20	8D-06	1	Nut
21	2J-6208	1	Yoke
22	2J-6208	1	Yoke
23	585330	1	Rod assy
24	4F-05062	1	Pin clevis
25	1F-316	1	Pin cotter

†Inc. 4, 22  
‡Inc. 20, 21



TS-13835

No.	Part No.	Qty.	Description
1	509772	1	Knob
2	18D-08	1	Nut
3	567419	1	Lever assy
4	526767	1	Bushing
5	550646	1	Sleeve
6	616795	1	Washer
7	24C-844	1	Bolt
8	1F-310	1	Pin cotter
9	4F-06106	1	Pin
10	8D-06	2	Nut

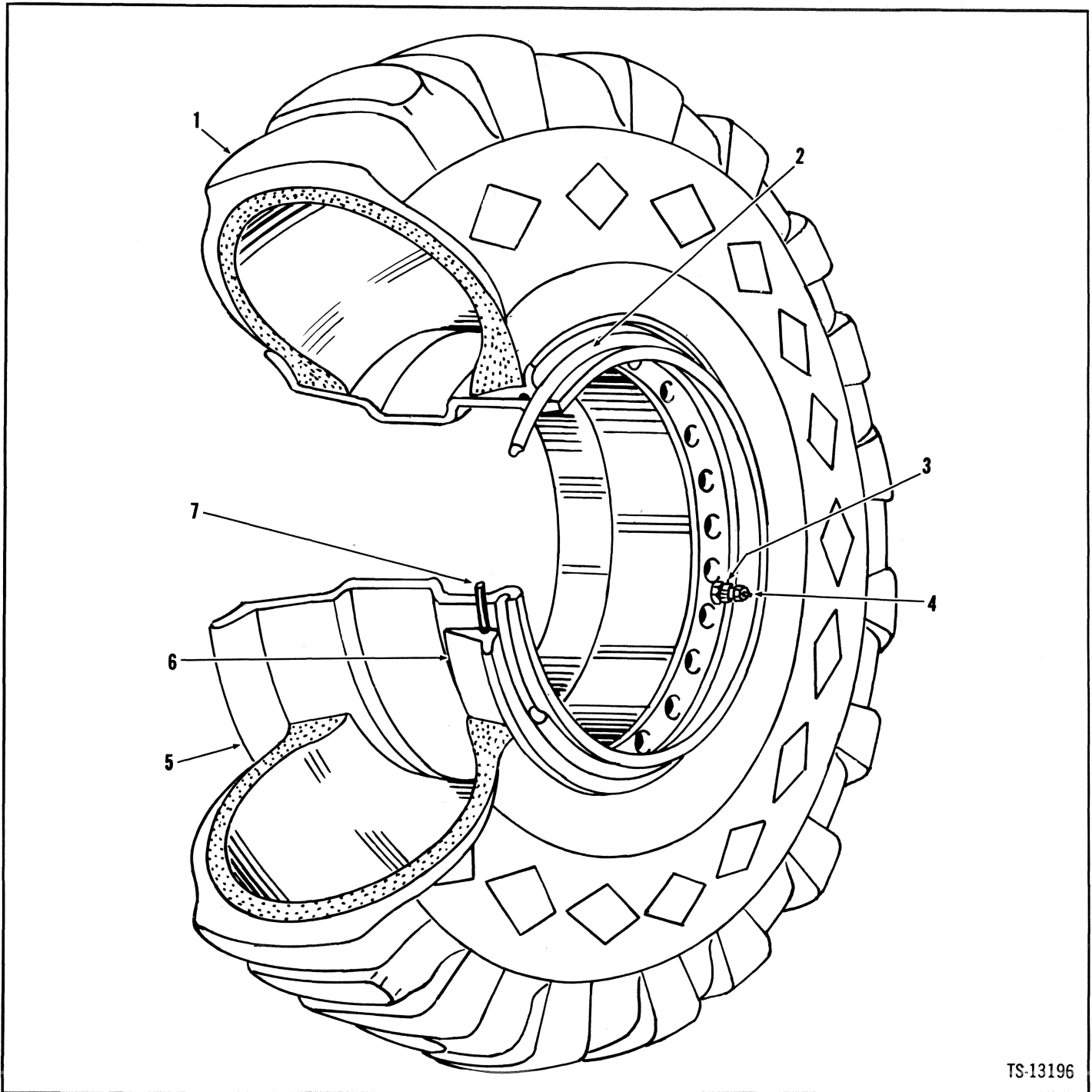
No.	Part No.	Qty.	Description
11	2509079	1	Rod assy
12	1F-310	1	Pin cotter
13	4F-06106	1	Pin
14	24C-644	2	Bolt
15	4E-06	2	Lockwasher
16		—	Valve assy
17	8D-06	1	Nut
18	2J-6208	1	Clevis
19	2J-6208	1	Clevis
20	12H-15	1	Fitting grease

<sup>1</sup>See Index



**Group W**

Wheel & Tire Data .....W2



TS-13196

Item No.	Part No. 12.0 x 24	Part No. 13.0 x 24	Part No. 14.0 x 24	Part No. 15.5 x 25	Description	No. Req'd.
1	-----	-----	-----	-----	§Tire .....	4
2	524009	524009	524009	549741	Ring .....	4
3	-----	1504902	1504902	509445	Stem .....	4
4	-----	551685	551685	551685	Cap, valve .....	4
5	1544718	1544718	1544718	1544600	Wheel .....	4
6	524010	524010	524010	549742	Flange .....	4
7	-----	941329	941329	112462	O-ring .....	4

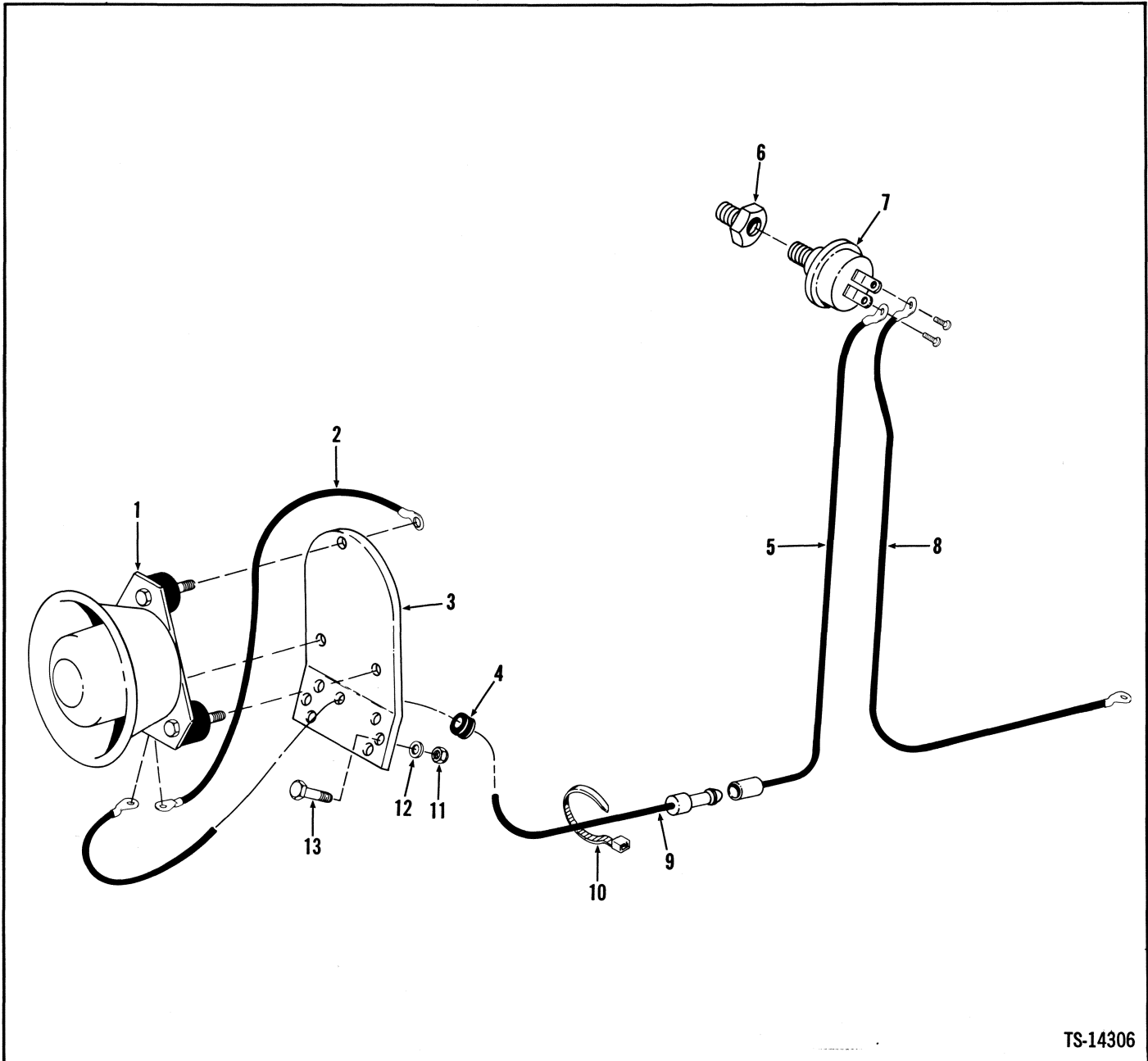
Inc. 4

W2-1



**Group Z**

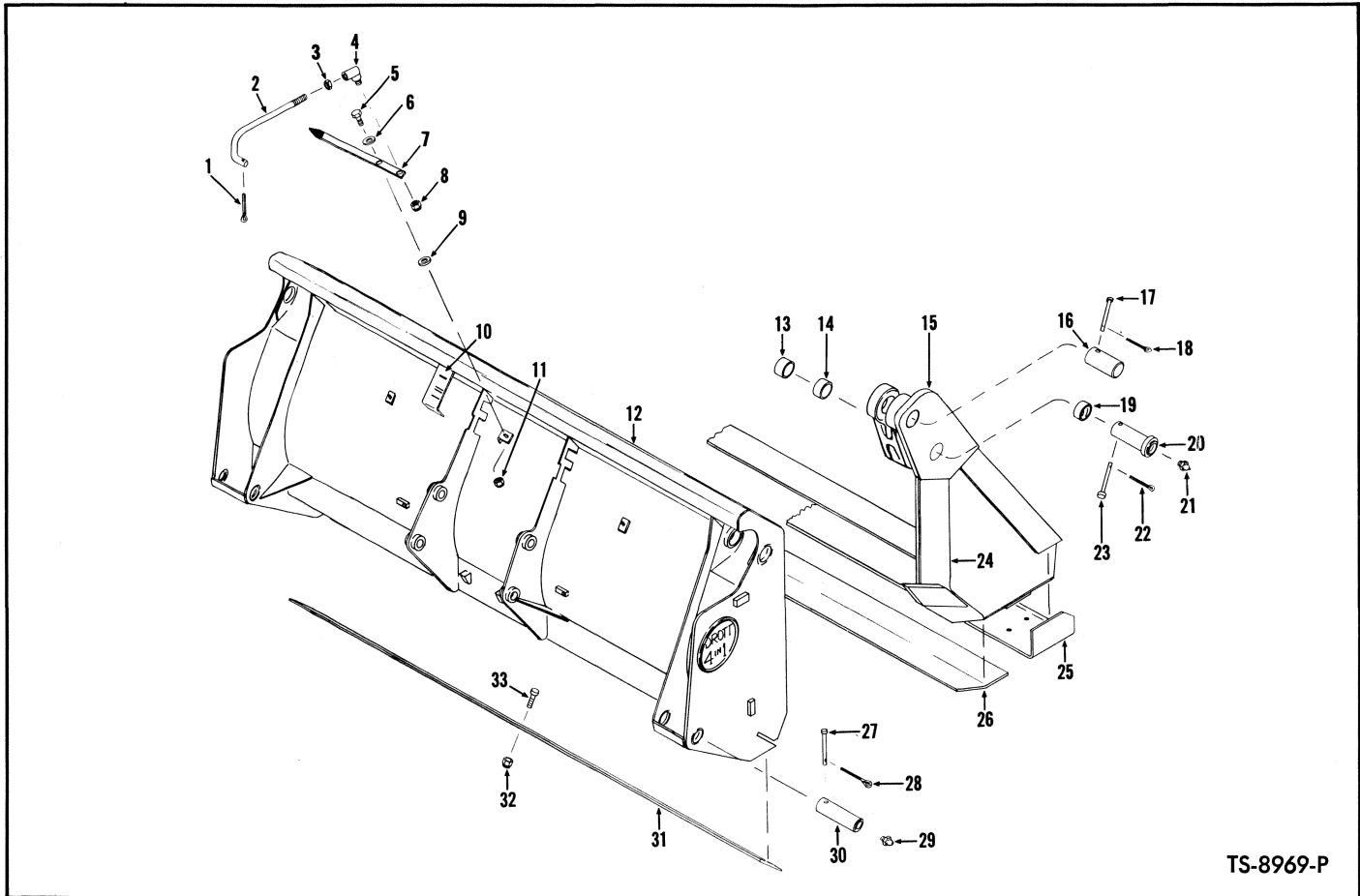
Back-Up Alarm Kit .....	Z2
Bucket Assembly – Drott (4 in 1) .....	Z3
Bucket Tooth Assembly .....	Z4
Bucket Teeth .....	Z5
Cab Assembly .....	Z7
Cylinder Assembly – Drott (4 in 1) Bucket .....	Z10
Defroster Fan Assembly .....	Z12
Heater Installation .....	Z13
Hydraulic System, Drott Bucket .....	Z14
Lifting Lugs .....	Z20
Log Grapple Attachment .....	Z17
Nameplates & Decals – Ranger .....	Z18
Seat Belt Kit .....	Z19
Side Panels .....	Z20
Three Spool Valve Assembly .....	Z23
Three Spool Valve Controls .....	Z24
Three Spool Valve Piping .....	Z26
Transmission Assembly .....	Z29
Windshield Wiper .....	Z30



TS-14306

No.	Part No.	Qty.	Description
1	1542966	1	Back-up alarm
2	1543539	1	Wire
3	1548008	1	Bracket
4	1010338	1	Grommet
5	2512961	1	Wire
6	2512413	1	Adapter
7	2506758	1	Switch
8	2512960	1	Wire
9	2512959	1	Wire
10	1539058	6	Cable tie
11	18D-06	2	Nut
12	25E-17	2	Washer
13	24C-620	2	Bolt

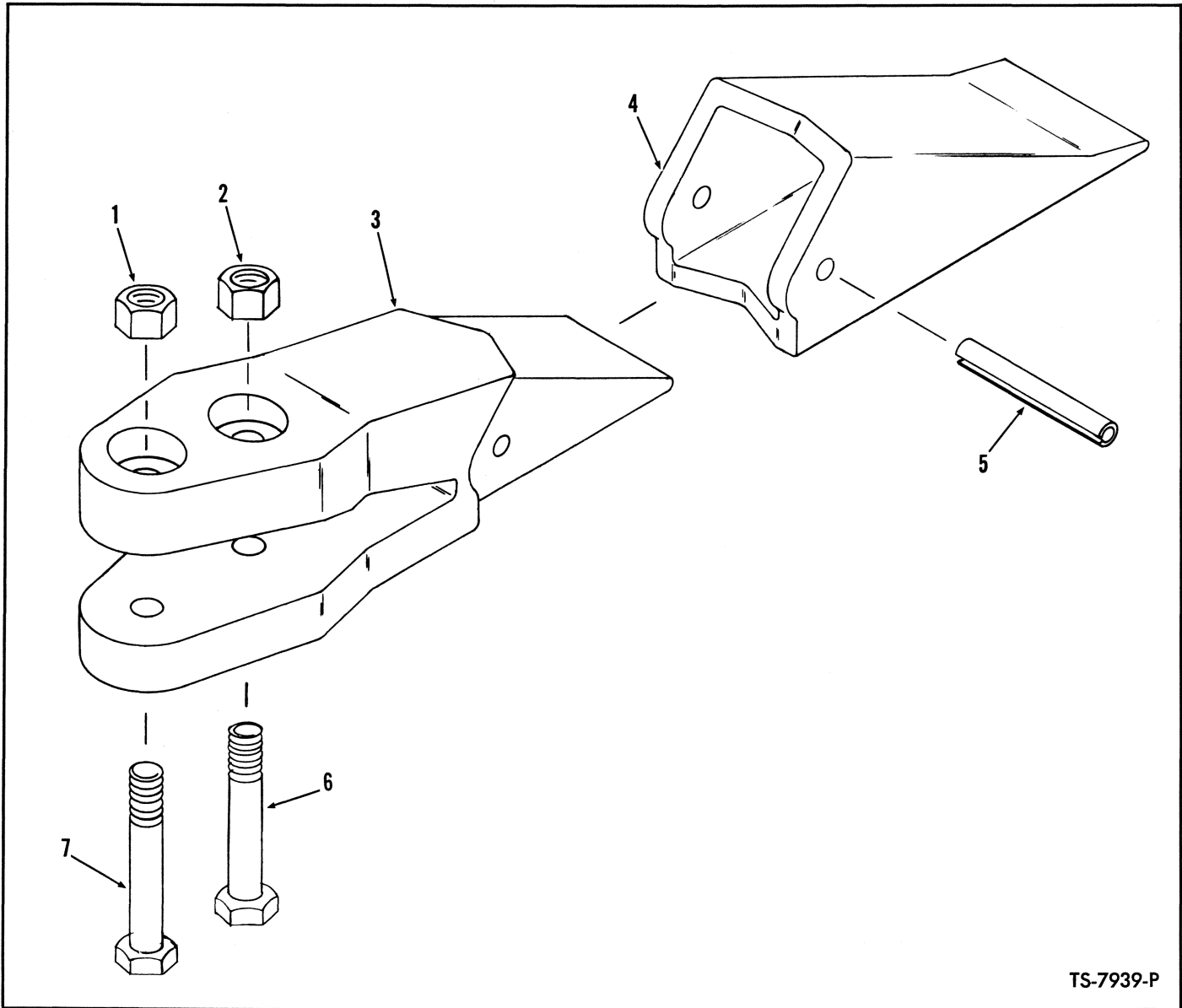
# Drott (4 in 1) Bucket Assembly



TS-8969-P

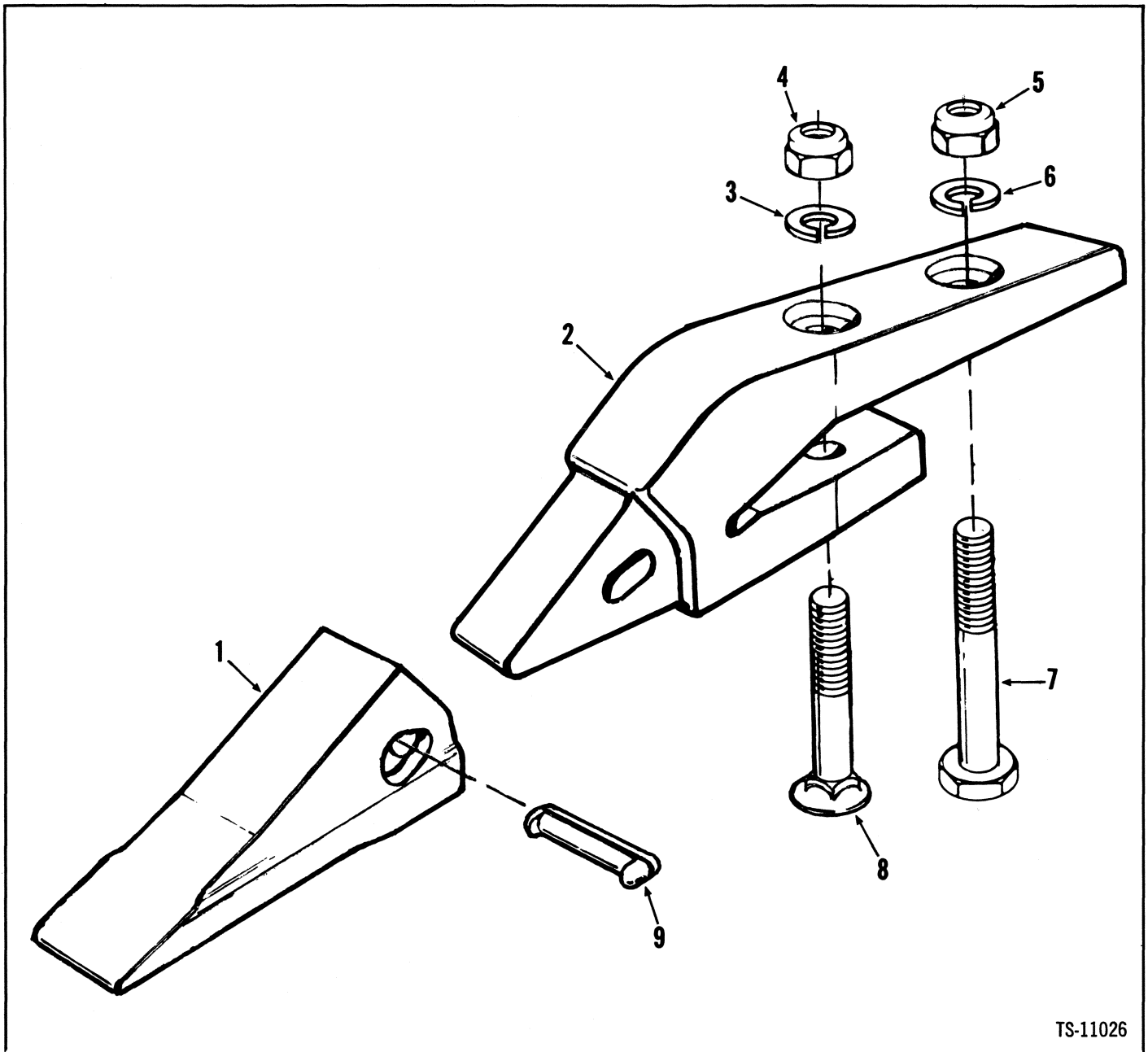
Item No.	Part No.	Description	No. Req'd.	Item No.	Part No.	Description	No. Req'd.
A	1526871	BUCKET ASSY (Inc. 1 thru 33A & all items listed on pages 3, 4, 5)	1	16	1533624	PIN, Cylinder to Bucket Front	2
1	1F-516	COTTER, Indicator Rod	1	17	1534600	PIN, Clevis	2
2	1533632	ROD, Indicator	1	18	1F-416	COTTER	2
3	8D-08	NUT, Indicator Rod Jam	1	19	1533356	BUSHING, Bucket Front	2
4	1533634	BALL JOINT, Indicator Rod	1	20	1533633	PIN, Bucket Front to Bucket Back	2
5	15C-820	BOLT, Pointer Bar Attaching	1	21	10H-25	FITTING, Grease	2
6	25E-20	WASHER, Pointer Bar Attaching	1	22	1F-416	COTTER	2
7	1533631	POINTER BAR	1	23	1534600	PIN, Clevis	2
8	67D-08	NUT, Indicator Rod	1	24	1533621	CUTTING EDGE, Side - R.H.	1
9	25E-20	WASHER, Pointer Bar Attaching	1	24A	1533622	†CUTTING EDGE, Side - L.H.	1
10	1533643	DECAL, Tilt	1	25	1533638	CUTTING EDGE - Front, Bucket Front	1
11	17D-6	NUT, Pointer Bar Attaching	1	26	1533628	WEAR PLATE - Rear, Bucket Front	1
12	1533649	BUCKET BACK ASSY (Inc. 31, 32, 33, 33A)	1	27	1534601	PIN, Clevis	2
13	1533356	BUSHING, Bucket Front	2	28	1F-412	COTTER	2
14	1533356	BUSHING, Bucket Front	2	29	10H-25	FITTING, Grease	2
15	1533648	BUCKET FRONT ASSY (Inc. 13, 14, 15A, 15B, 19, 24, 24A, 25, 26)	1	30	1533636	PIN, Cylinder to Bucket Back	2
15A	1533646	†HINGE EAR - R.H.	1	31	1533637	CUTTING EDGE, Bucket Back	1
15B	1533647	†HINGE EAR - L.H.	1	32	61D-12	NUT, Plow Bolt	14
				33	513603	BOLT, Plow (Inc. 32)	12
				33A	552368	†BOLT, Plow (Inc. 32)	2
				34	1533342	†DECAL - Clean	2
				35	1533629	†DECAL - Clam Opening	1

†Not Illustrated



TS-7939-P

Item No.	Part No.	Description	No. Req'd.
A	1538746	BUCKET TOOTH ASSY (Inc. 1 thru 7)	7
1	61D-08	NUT, Bolt Attaching	7
2	61D-08	NUT, Bolt Attaching	7
3	-----	ADAPTER, Tooth — See "A"	—
4	1538744	TIP (Tooth Point)	7
5	1538742	PIN, Flex	7
6	23C-840	BOLT, Tooth Attaching	7
7	23C-844	BOLT, Tooth Attaching	7



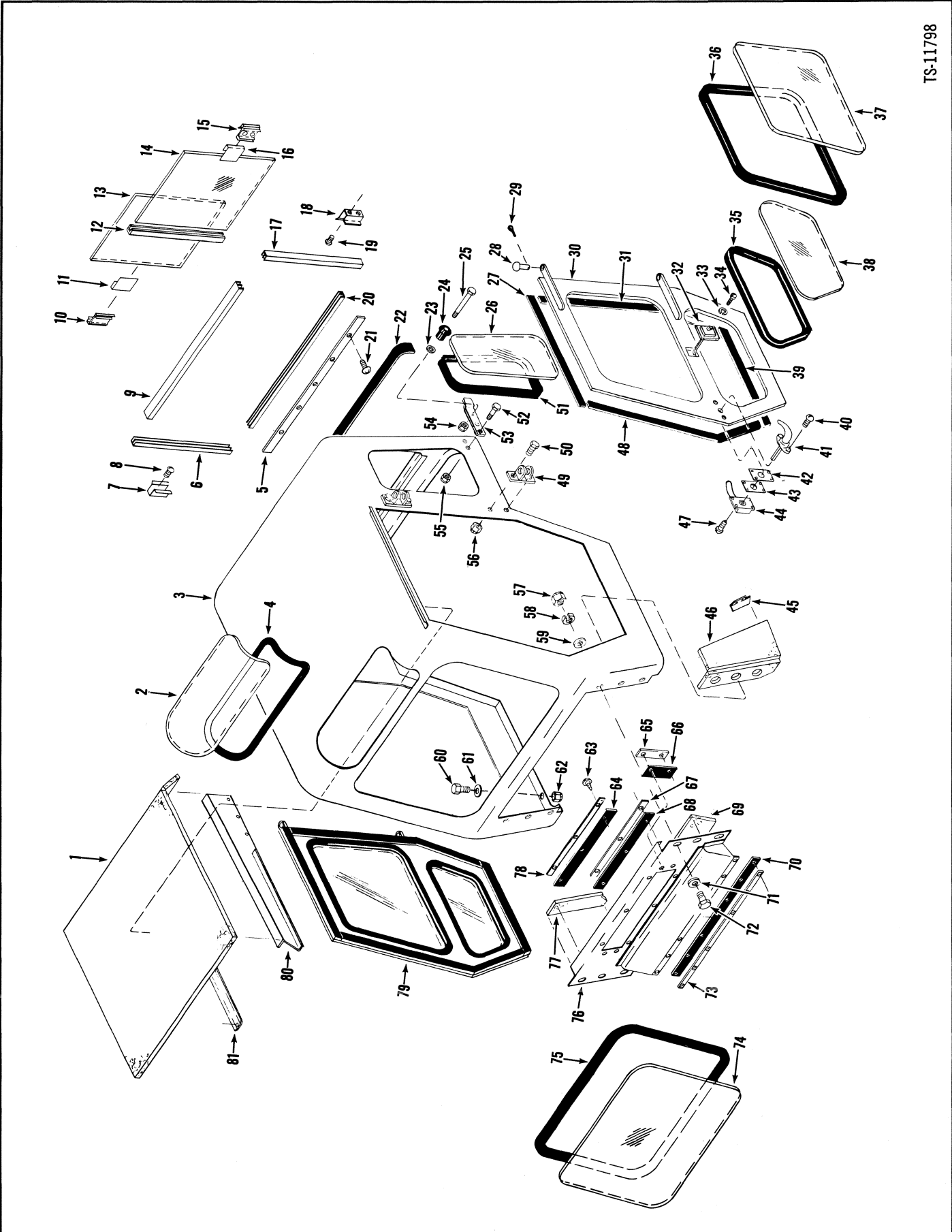
TS-11026

No.	Part No.	Qty.	Description
A	2511482	—	Tooth assy
1	562659	1	Tip
2	2511475	1	Shank
3	4E-08	1	Lockwasher
4	62D-08	1	Nut
5	62D-08	1	Nut
6	4E-08	1	Lockwasher
7	18C-832	1	Bolt
8	562743	1	Bolt assy
9	562660	1	Pin

<sup>2</sup>Inc. 1, 2, 9

<sup>3</sup>Inc. 4

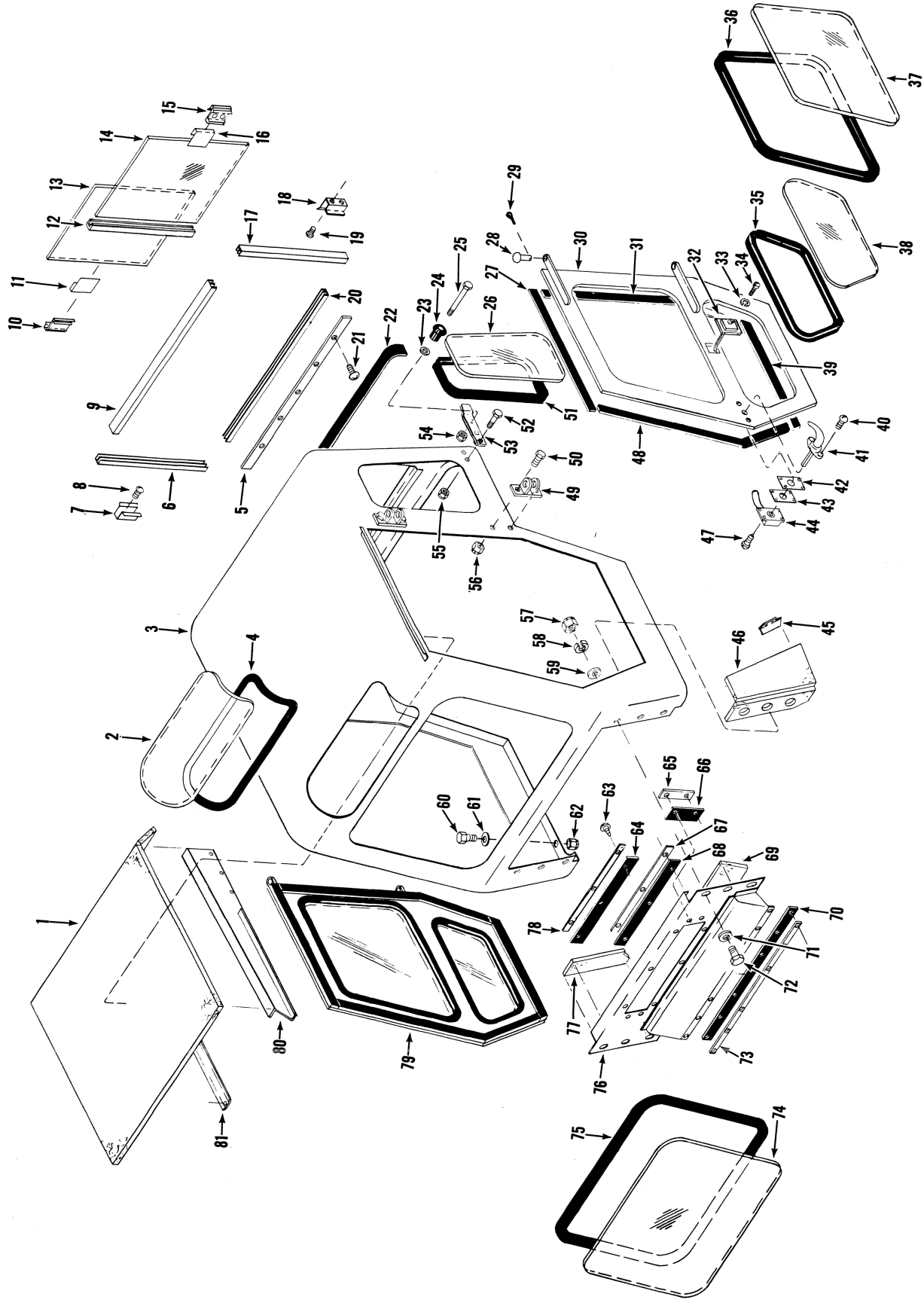
Note: Number of teeth per bucket can vary. Therefore quantities listed are for one tooth.



# Cab Assembly – (Two Door)

No.	Part No.	Qty.	Description
A	1515524	1	Cab assy (Inc. 1 thru 81)
B	1501988	1	Cab assy (Inc. 2 thru 44, 47 thru 57, 63 thru 68, 70 thru 76, 78, 79)
C	1515523	1	Cab assy (Inc. 1 thru 51, 63 thru 81)
1	1516588	1	Backing headliner
2	§-----	—	Glass pattern roof glass — See 82
3	§-----	—	Cab — See "A"
4	<sup>1</sup> 569694	—	Moulding roof glass
5	949831	1	Retainer bottom — Rear
6	<sup>2</sup> 569696	—	Channel side — Rear
7	557465	1	Lock strike glass
8	58G-606	2	Screw lock strike mounting
9	<sup>2</sup> 569696	—	Channel top — Rear
10	589571	1	Lock sliding glass
11	<sup>3</sup> 946115	—	Rubber glazing
12	<sup>2</sup> 139149	—	Channel glass divider
13	§-----	—	Glass pattern rear — See 81
14	§-----	—	Glass pattern rear — See 81
15	589571	1	Lock sliding glass
16	<sup>3</sup> 946115	—	Rubber glazing
17	<sup>2</sup> 569696	—	Channel side — rear
18	557465	1	Lock strike glass
19	58G-606	2	Screw lock strike mtg.
20	<sup>2</sup> 569696	—	Channel lower — rear
21	945518	5	Screw retainer mounting
22	<sup>4</sup> 1521844	—	Rubber seal — rear
23	25E-18	1	Washer
24	949596	2	Bumper rubber
25	1C-410	2	Bolt bumper mtg.
26	§-----	—	Glass pattern — side — See 81
27	<sup>5</sup> 949823	—	Rubber door top
28	4F-08127	4	Pin clevis
29	1F-514	4	Pin cotter
30	949851	1	Door — LH
30A	949852	1	Door — RH
31	<sup>1</sup> 949823	—	Rubber door seal
32	560650	2	Latch door
33	-----	—	Omit
34	945518	8	Screw
35	<sup>1</sup> 569694	—	Moulding
36	<sup>6</sup> 569694	—	Moulding
37	§-----	—	Glass — See 82
38	§-----	—	Glass — See 82
39	<sup>7</sup> 949823	—	Rubber door — bottom
40	945518	4	Screw
41	2503754	2	Handle
42	945513	1	Shim
43	945513	1	Shim

15'  
23'  
33"  
445"  
52'  
616'  
74'

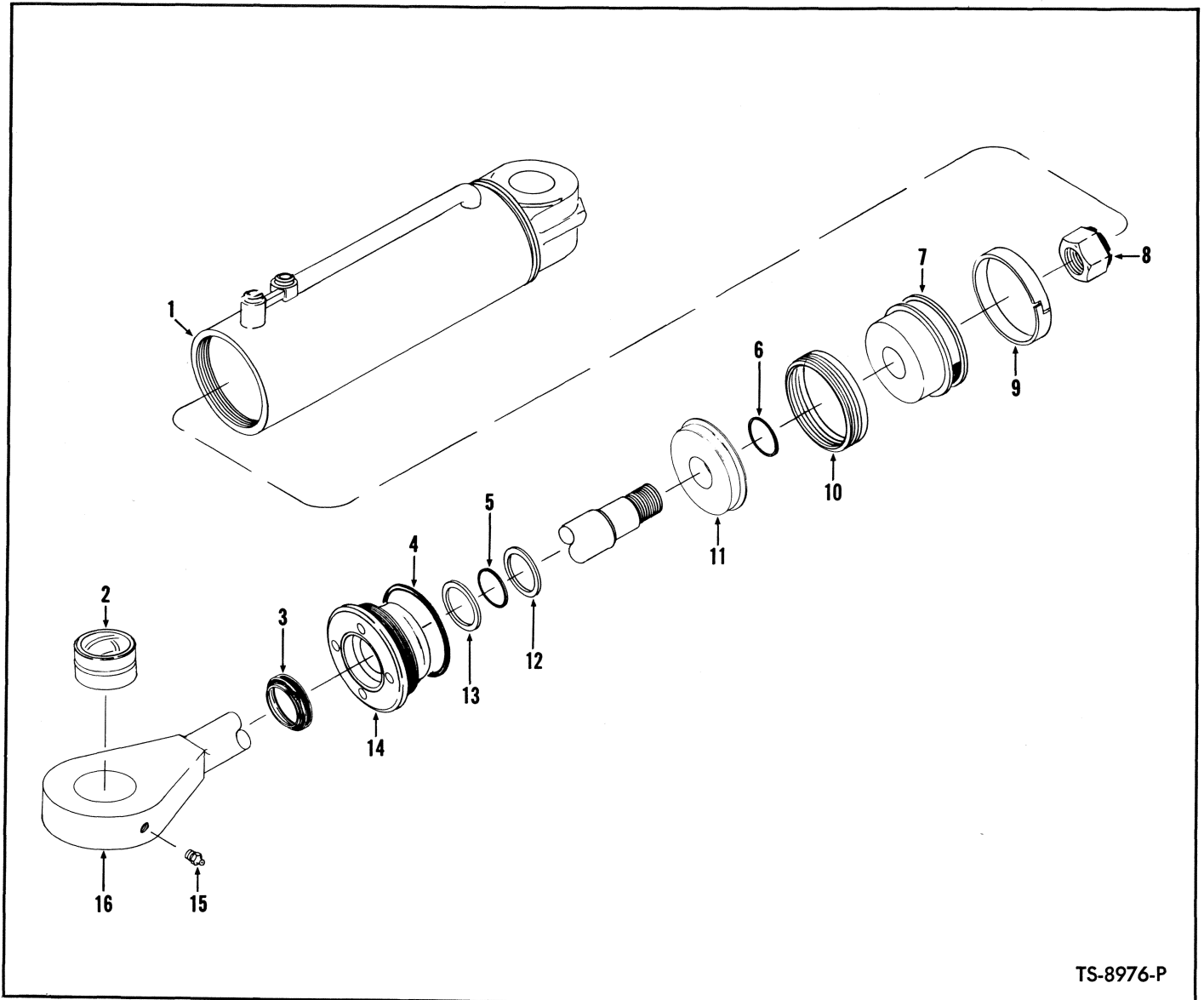




# Cab Assembly — (Two Door)

No.	Part No.	Qty.	Description
44	942874	1	Lock door — LH
44A	†138249	1	Lock door — RH
45	1516593	1	Angle — LH
45A	†1516592	1	Angle — RH
46	1516598	1	Panel — LH
46A	†1516597	1	Panel — RH
46B	†14G-1008	4	Screw
47	87G-1010	8	Screw
48	1949823	—	Rubber door seal
49	945512	—	Hinge
50	1C-514	4	Screw
50A	†4E-05	4	Lockwasher
51	2569694	—	Moulding
52	1C-410	4	Bolt
53	104523	2	Bracket
54	947860	2	Nut
55	61D-04	2	Nut
56	61D-05	2	Nut
57	61D-05	6	Nut
58	-----	—	Omit
59	25E-15	6	Washer
60	24C-620	4	Bolt
61	619020	2	Washer
62	18D-06	4	Nut
63	14G-1008	16	Screw
64	3945548	—	Moulding
65	945515	2	Retainer
66	4945541	—	Rubber
67	945514	1	Retainer
68	5945541	—	Rubber
69	1516591	1	Panel
70	6945539	—	Rubber
71	25E-14	6	Washer
72	1C-514	6	Bolt
73	945517	1	Retainer
74	§-----	—	Glass — See 82
75	7569694	—	Moulding
76	945546	1	Cowl
77	1516589	1	Panel — RH
78	1516590	1	Panel — LH
79	§-----	—	Door — See 30
80	1516601	1	Panel — LH
80A	1516600	1	Panel — RH
80B	†14G-1008	8	Screw
81	1516599	1	Panel
81A	†14G-1008	2	Screw
82	†945148	1	Glass pattern (Inc. 2, 13, 14, 26, 37, 38, 74)

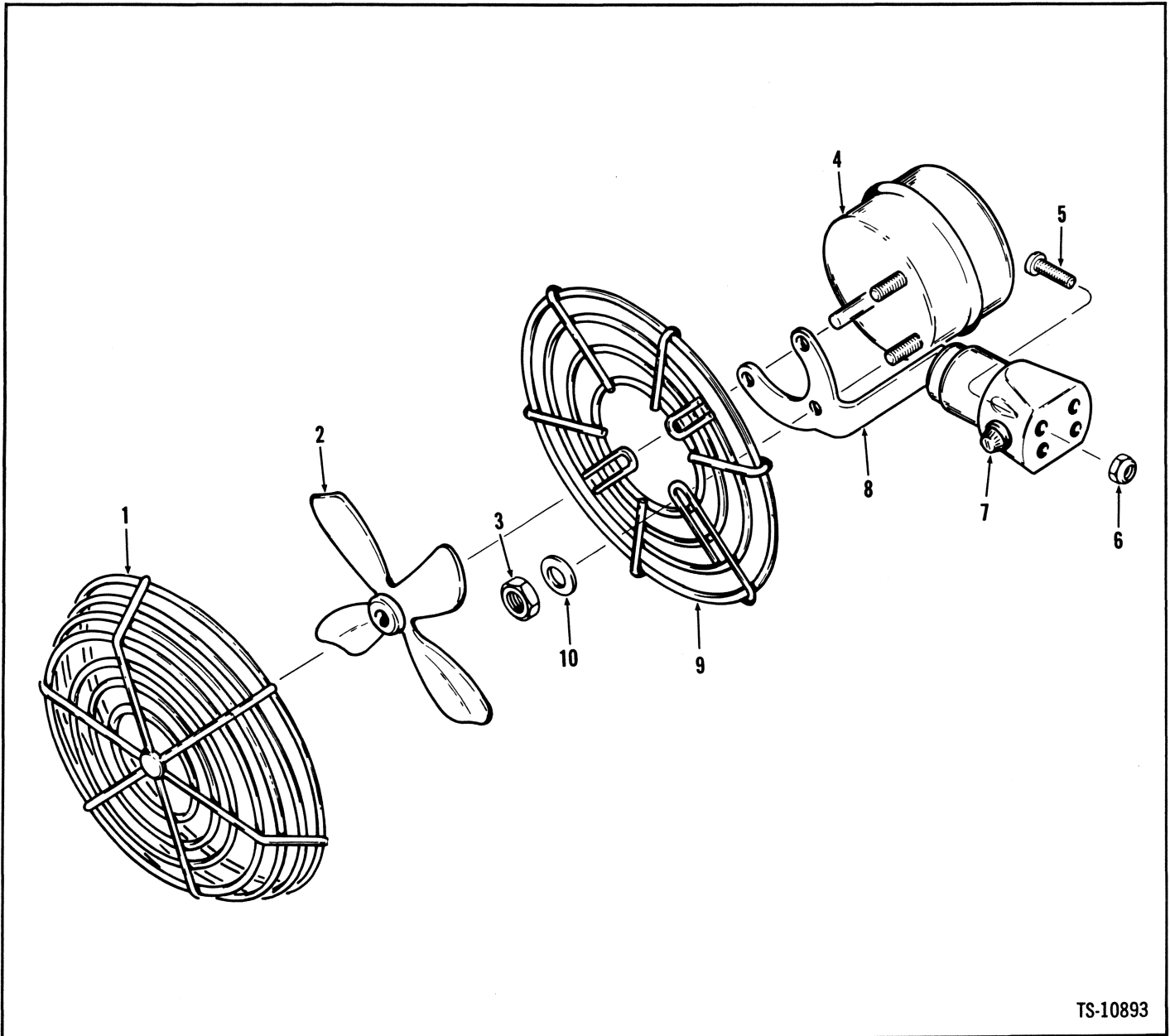
110'  
 112'  
 32'  
 49"  
 514"  
 627"  
 79'



TS-8976-P

Item No.	Part No.	Description	No. Req'd.
A	1533642	CYLINDER ASSY (Inc. 1 thru 16)	2
1	1533640	CYLINDER	1
2	1533355	BUSHING, Piston Rod	1
3	1533626	WIPER RING	1
4	25K-40308	O-RING	1
5	25K-60116	O-RING	1
6	25K-40104	O-RING	1
7	1533641	PISTON	1
8	67D-18	NUT, Piston Rod	1
9	1533627	WEAR RING	1
10	1533635	V-PACKING SET	1
11	1533630	PISTON	1
12	666972	WASHER, Back-Up	1
13	666972	WASHER, Back-Up	1
14	1533625	CAP, Cylinder	1
15	10H-25	FITTING, Grease	1
16	1533639	ROD, Cylinder (Inc. 2)	1





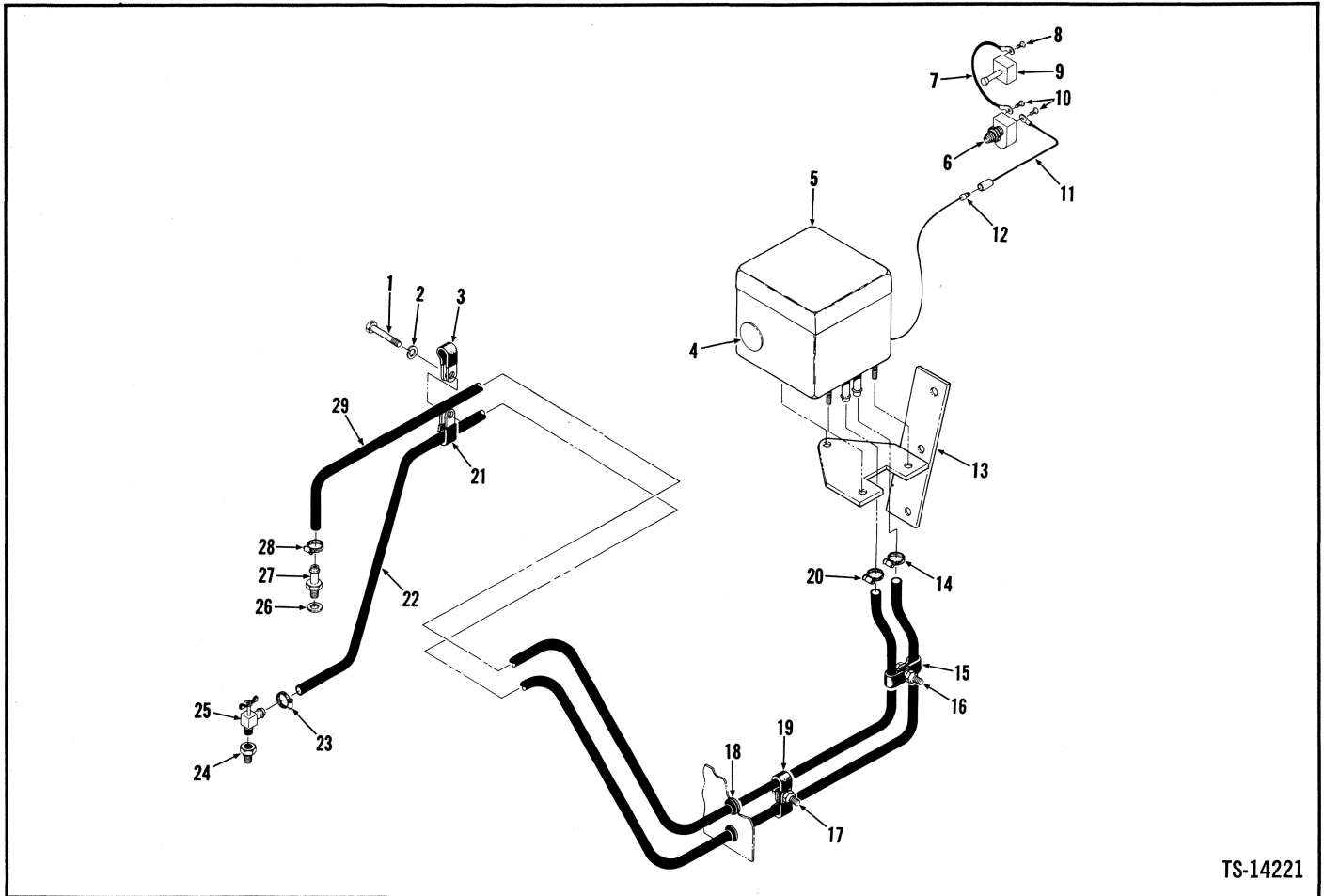
TS-10893

No.	Part No.	Qty.	Description
A	'517846	1	Fan assy
1	949036	1	Guard
2	949037	1	Fan
3	949054	2	Nut
4	949191	1	Motor
5	3G-1012	4	Screw
6	50D-10	4	Nut
7	949192	1	Switch
8	949034	1	Base
9	949039	1	Guard
10	25E-10	2	Washer
11	†1515481	1	Wire assy
12	†602297	1	Connector

†Inc. 1→4, 7→10

# Heater Installation

**MICHIGAN**



TS-14221

No.	Part No.	Qty.	Description
1	23C-616	1	Bolt
2	4E-06	1	Lockwasher
3	30H-50	1	Clip
4	742753	2	Plug
5	<sup>2,9</sup> 1519429	1	Heater assy
5A	†945890	1	Motor
5B	†960186	1	Core
5C	†960187	1	Fan
6	<sup>3</sup> 993631	1	Switch
7	663579	1	Wire
8	<sup>7</sup> _____	1	Screw
9	<sup>1,4</sup> _____	1	Switch light
10	<sup>8</sup> _____	2	Screw
11	2501491	1	Wire assy
12	1513577	1	Terminal
13	1519430	1	Bracket assy
14	521874	1	Clamp
15	30H-50	2	Clip

No.	Part No.	Qty.	Description
16	24C-616	1	Bolt
16A	†25E-17	1	Washer
16B	†18D-06	1	Nut
17	24C-616	1	Bolt
17A	†25E-17	1	Washer
17B	†18D-06	1	Nut
18	552438	2	Grommet
19	30H-50	2	Clip
20	521874	1	Clamp
21	30H-50	1	Clip
22	<sup>5</sup> 1529688	1	Hose
23	521874	1	Clamp
24	19F-6	1	Bushing
25	552433	1	Valve
26	3454560	1	Washer
27	3239943	1	Adapter
28	521874	1	Clamp
29	<sup>6</sup> 1529688	1	Hose

<sup>1</sup>See Index

<sup>2</sup>Inc. 6

<sup>3</sup>Inc. 10

<sup>4</sup>Inc. 8

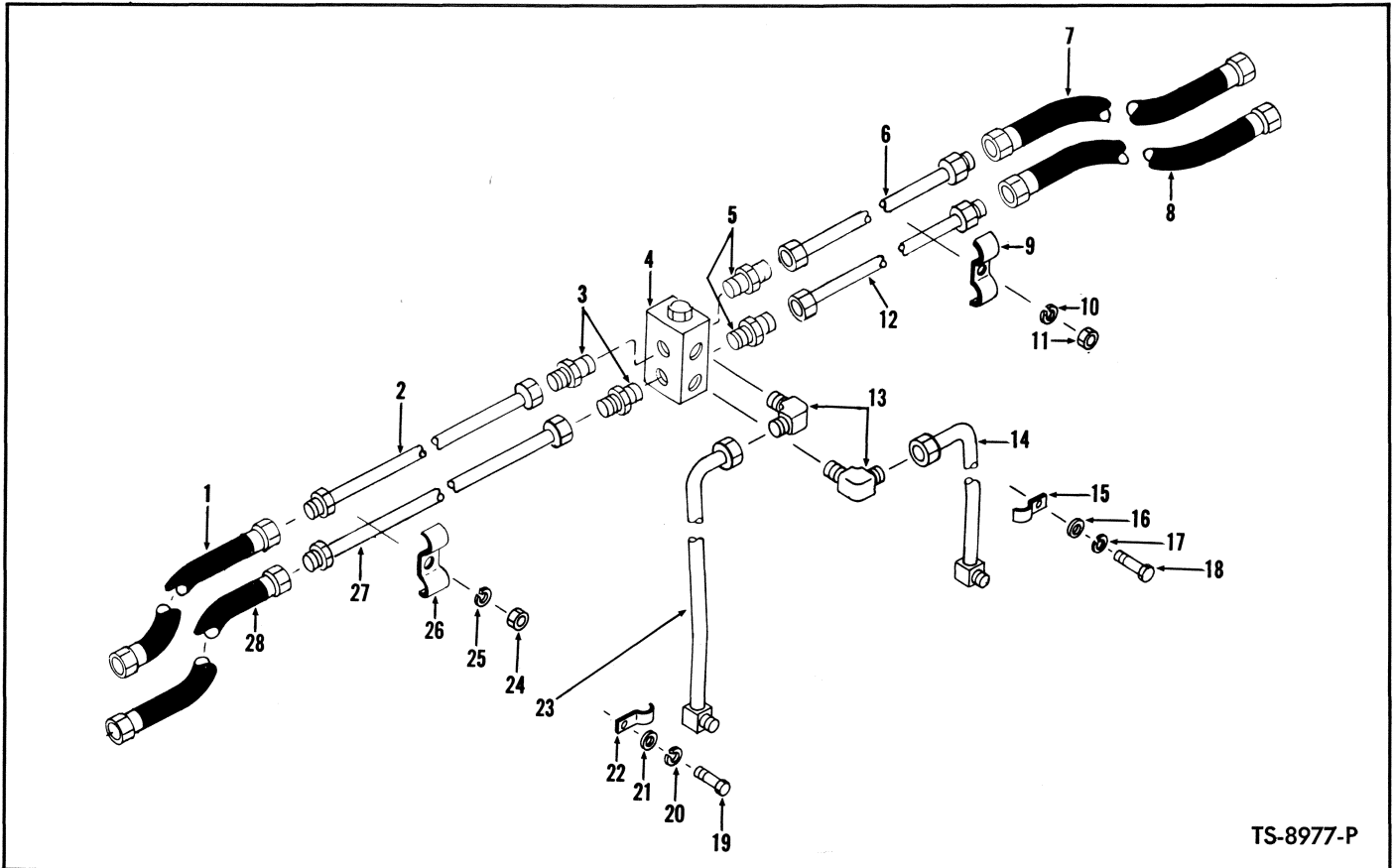
<sup>5</sup>Engine to heater

<sup>6</sup>Heater to engine

<sup>7</sup>See 9

<sup>8</sup>See 6

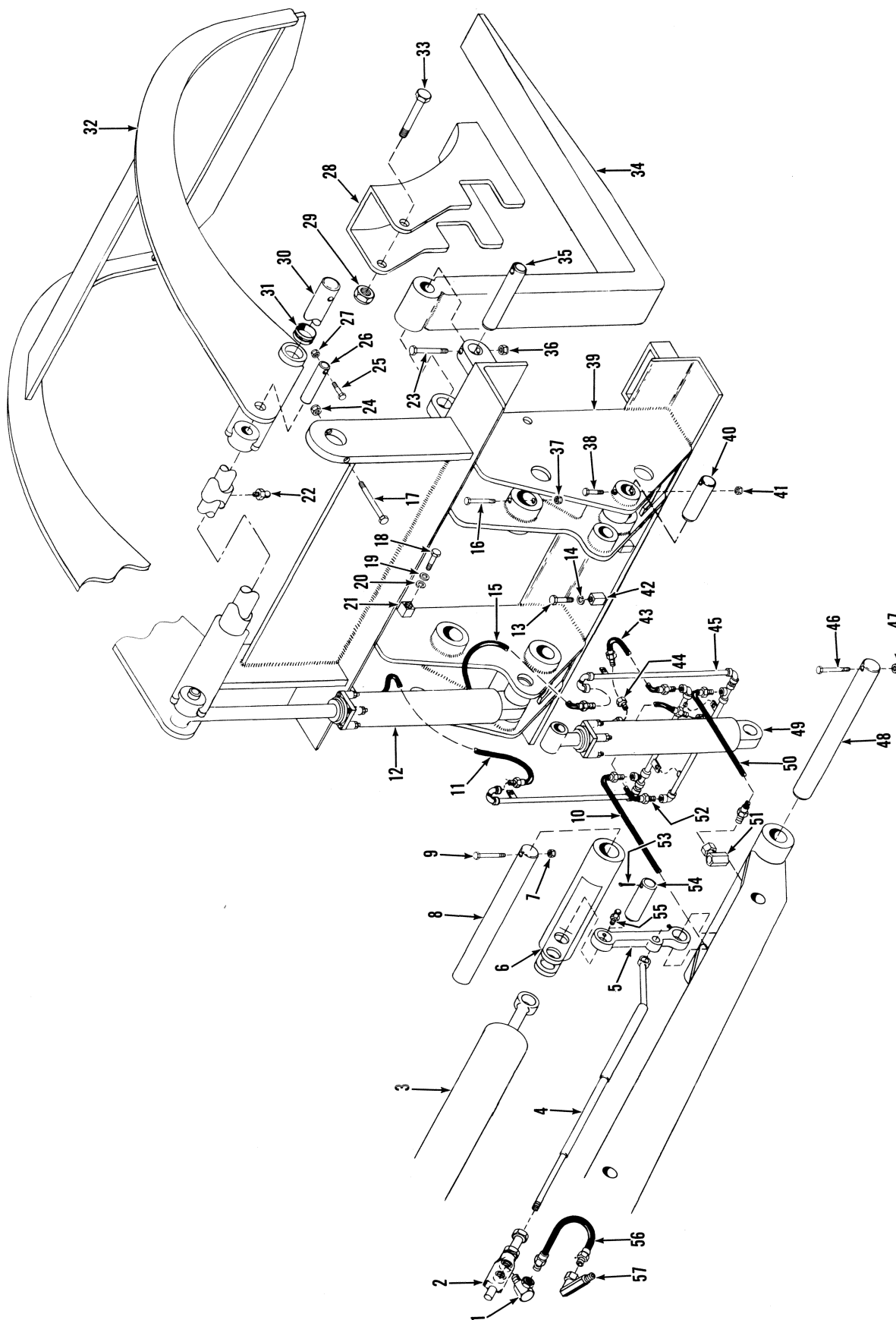
<sup>9</sup>Inc. 5A, 5B, 5C



TS-8977-P

Item No.	Part No.	Description	No. Req'd.
1	1533555	HOSE, Cylinder to Tube .....	1
2	1533368	TUBE, Hose to Relief Valve .....	1
3	89F-7	ADAPTER .....	2
4	1534599	RELIEF VALVE .....	1
5	89F-7	ADAPTER .....	2
6	1533368	TUBE, Relief Valve to Hose .....	1
7	1533555	HOSE, Cylinder to Tube .....	1
8	1533555	HOSE, Cylinder to Tube .....	1
9	1533623	CLAMP, Tube Attaching .....	1
10	4E-06	LKWSHR, Clamp Attaching .....	1
11	61D-06	NUT, Clamp Attaching .....	1
12	1533368	TUBE, Relief Valve to Hose .....	1
13	730149	ELBOW, Tube to Valve .....	2
14	1533644	TUBE, Valve to Hose .....	1
15	1533347	CLAMP, Tube Attaching .....	1
16	25E-16	WASHER, Clamp Attaching .....	1
17	4E-06	LKWSHR, Clamp Attaching .....	1
18	15C-616	BOLT, Clamp Attaching .....	1
19	15C-616	BOLT, Clamp Attaching .....	1
20	4E-06	LKWSHR, Clamp Attaching .....	1
21	25E-16	WASHER, Clamp Attaching .....	1
22	1533347	CLAMP, Tube Attaching .....	1
23	15333645	TUBE, Valve to Hose .....	1
24	61D-06	NUT, Clamp Attaching .....	1
25	4E-06	LKWSHR, Clamp Attaching .....	1
26	1533623	CLAMP, Tube Attaching .....	1
27	1533368	TUBE, Hose to Relief Valve .....	1
28	1533555	HOSE, Cylinder to Tube .....	1







# Log Grapple Attachment

**MICHIGAN**

No.	Part No.	Qty.	Description
A	<sup>2</sup> 2502215	1	Log grapple assy
1	517089	1	Adapter union
2	586420	1	Valve level
3	1504470	1	Cylinder bucket
4	1520775	1	Rod
5	1530561	1	Link
6	586215	1	Link assy
7	18D-06	1	Nut
8	584715	1	Shaft
9	24C-656	1	Bolt
10	604573	1	Hose
11	616042	1	Hose
12	1534089	1	Cylinder assy RH
13	24C-616	2	Bolt
14	4E-06	2	Lockwasher
15	616042	1	Hose
16	<sup>3</sup> 24C-656	1	Bolt
17	24C-672	1	Bolt
18	24C-616	2	Bolt
19	25E-18	2	Washer
20	4E-06	2	Lockwasher
21	<sup>4</sup> 522906	2	Tapped block
22	10H-25	1	Fitting grease
23	24C-660	2	Bolt
24	18D-06	1	Nut
25	24C-648	2	Bolt
26	1530267	2	Pin
27	18D-06	2	Nut
28	2510387	2	Deflector

No.	Part No.	Qty.	Description
29	18D-10	2	Nut
30	1520774	1	Shaft
31	585644	2	Bushing
32	<sup>5</sup> 1520816	1	Clamp assy
33	24C-10128	2	Bolt
34	538601	2	Fork
35	514925	2	Pin
36	18D-06	2	Nut
37	<sup>7</sup> 18D-06	1	Nut
38	24C-648	2	Bolt
39	1520792	1	Carrier assy
40	1521676	2	Pin
41	18D-06	2	Nut
42	<sup>4</sup> 584277	2	Tapped block
43	604573	1	Hose
44	36F-4	4	Adapter union
45	1530727	1	Tube assy
46	24C-656	1	Bolt
47	18D-06	1	Nut
48	584715	1	Shaft
49	1534089	1	Cylinder assy LH
50	604573	1	Hose
51	1534235	2	Adapter union
52	604573	1	Hose
53	586452	2	Pin cotter
54	586199	2	Pin
55	10H-25	2	Fitting grease
56	661558	1	Hose
57	6K-08	1	Valve

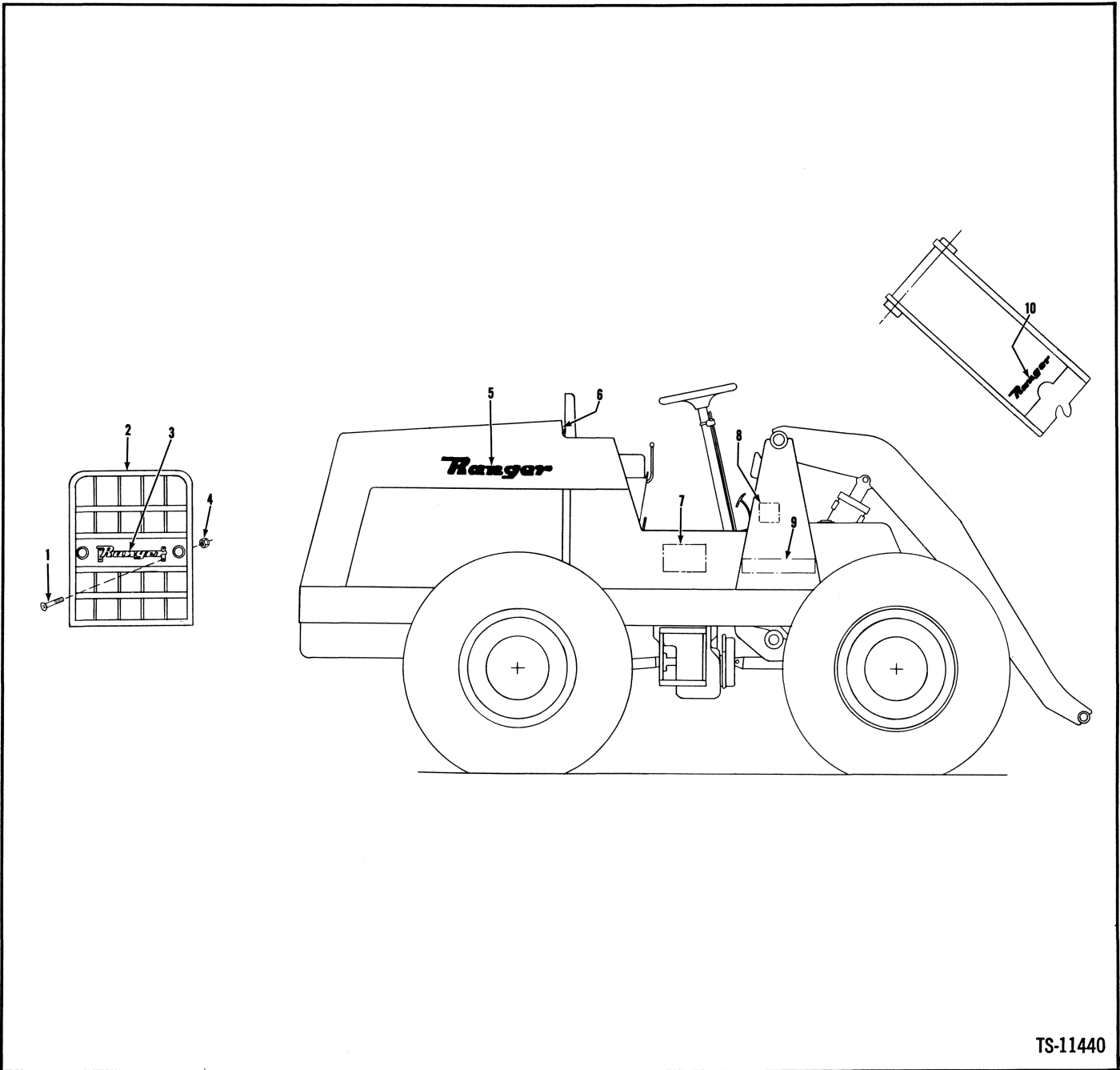
<sup>2</sup>Inc. 1, 4, 5, 7→57

<sup>3</sup>See 46

<sup>4</sup>Welded

<sup>5</sup>Inc. 31

<sup>6</sup>See 47



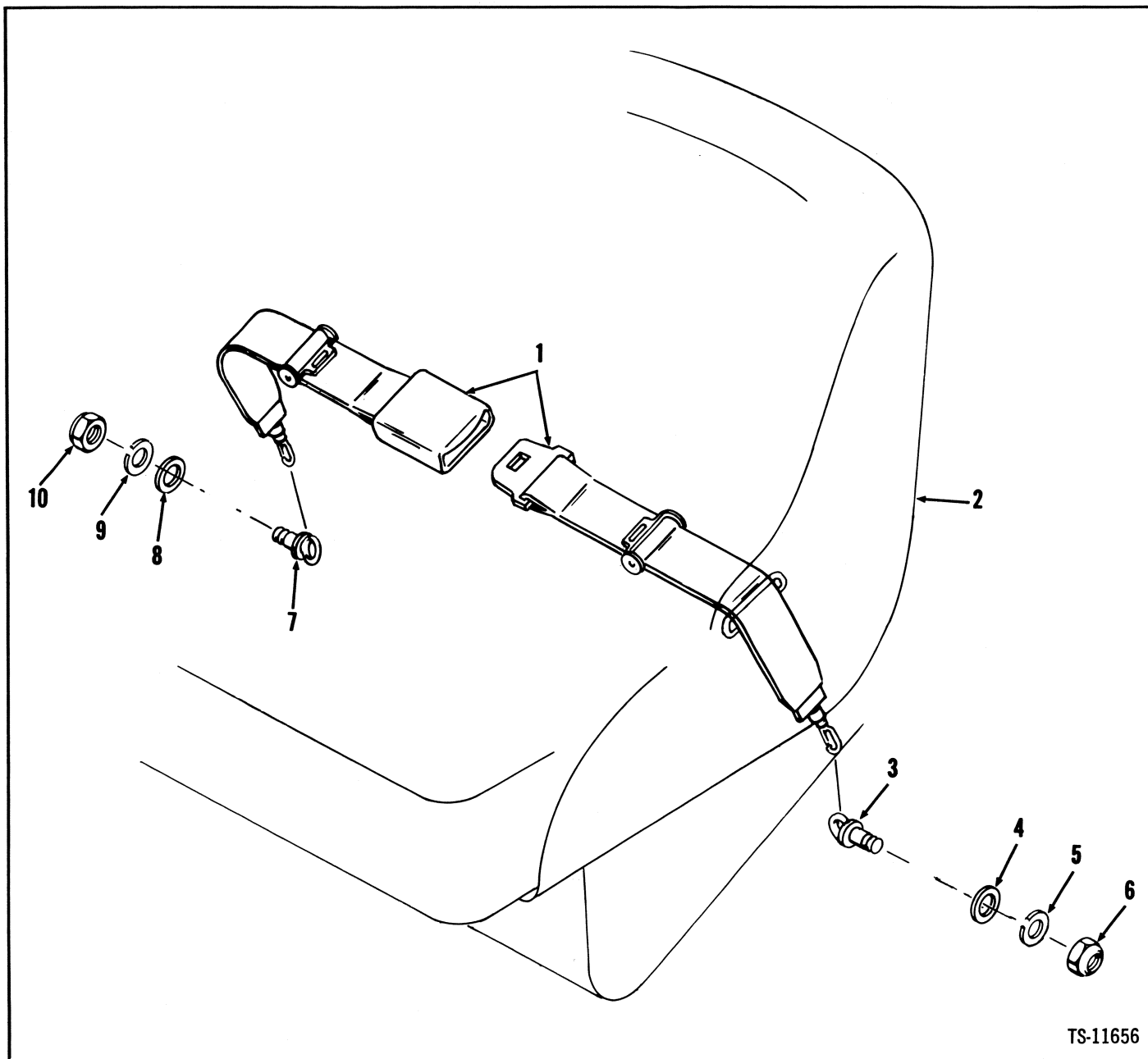
TS-11440

No.	Part No.	Qty.	Description
1	76-424	4	Screw
2	1	—	Grille
3	1515943	1	Nameplate grille
4	17D-14	4	Locknut
5	1909493	2	Decal ranger
6	1516973	1	Plate serial number
7	1909532	2	Decal Clark Equipment
8	1516930	2	Decal number
9	2503923	2	Decal AWS
10	1515358	1	Decal ranger

<sup>1</sup>See Index

# Seat Belt Kit

MICHIGAN



TS-11656

No.	Part No.	Qty.	Description
1	<sup>1</sup> 1527745	1	Belt assy
2	<sup>2</sup> -----	1	Seat
3	<sup>3</sup> -----	1	Eyebolt
4	<sup>4</sup> -----	1	Washer
5	<sup>5</sup> -----	1	Lockwasher
6	<sup>6</sup> -----	1	Nut
7	<sup>7</sup> -----	1	Eyebolt
8	<sup>8</sup> -----	1	Washer
9	<sup>9</sup> -----	1	Lockwasher
10	<sup>10</sup> -----	1	Nut

<sup>1</sup>Inc. 3 → 10  
<sup>2</sup>See Index  
<sup>3</sup>See 1



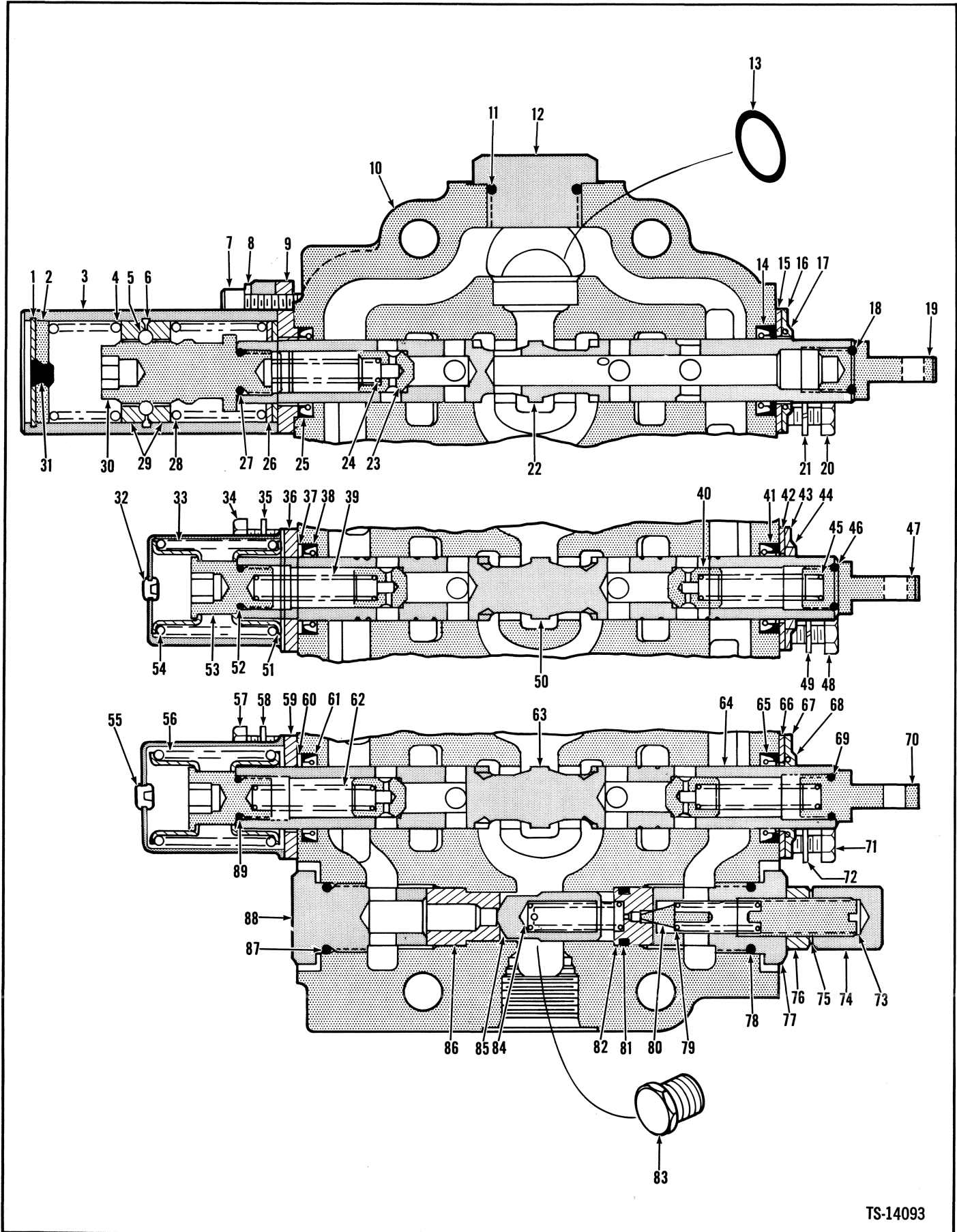
## Side Panels

No.	Part No.	Qty.	Description
1	1538423	1	Side panel — RH
2	1538424	1	Side panel — LH
3	552336	4	Catch
4	551434	4	Bumper
5	86G-1014	4	Screw
6	14D-10	4	Nut
7	13E-10	4	Lockwasher

## Lifting Lugs

No.	Part No.	Qty.	Description
1	†570686	4	Lifting lug
2	†1511709	4	Decal lifting
3	†1511709	4	Decal pointer





TS-14093

# Three Spool Valve Assembly



No.	Part No.	Qty.	Description
A	<sup>2</sup> 2510881	1	Valve assy
B	<sup>3</sup> 960973	1	Detent assy
1	755855	1	Ring snap
2	886762	1	Plug
3	960974	1	Cover
4	945356	1	Spring
5	10J-06	15	Ball
6	945359	1	Ring snap
7	11G-520	2	Bolt
8	4E-05	2	Lockwasher
9	960971	1	Plate
10	§ <sup>4</sup> -----	1	Housing
11	91F-10	1	O-ring
12	<sup>5</sup> 24K-10	1	Cap
13	25K-40106	1	O-ring
14	961004	1	Seal
15	960966	1	Plate
16	960967	1	Plate
17	960968	1	Wiper
18	25K-30014	1	O-ring
19	945226	1	Plunger eye
20	1C-512	2	Bolt
21	4E-05	2	Lockwasher
22	§ <sup>4</sup> -----	1	Plunger
23	945590	2	Check
24	871388	2	Spring
25	961004	1	Seal
26	961007	1	Spacer
27	25K-30014	1	O-ring
28	945358	1	Spring
29	886758	2	Retainer
30	945357	1	Cap
31	886763	1	Bleeder plug
32	886745	1	Bleeder plug
33	888455	1	Spring
34	1C-512	2	Bolt
35	4E-05	2	Lockwasher
36	960972	1	Plate
37	961006	1	Ring back-up
38	961004	1	Seal
39	871388	2	Spring
40	945590	2	Check
41	961004	1	Seal
42	960966	1	Plate
43	960967	1	Plate
44	960968	1	Wiper

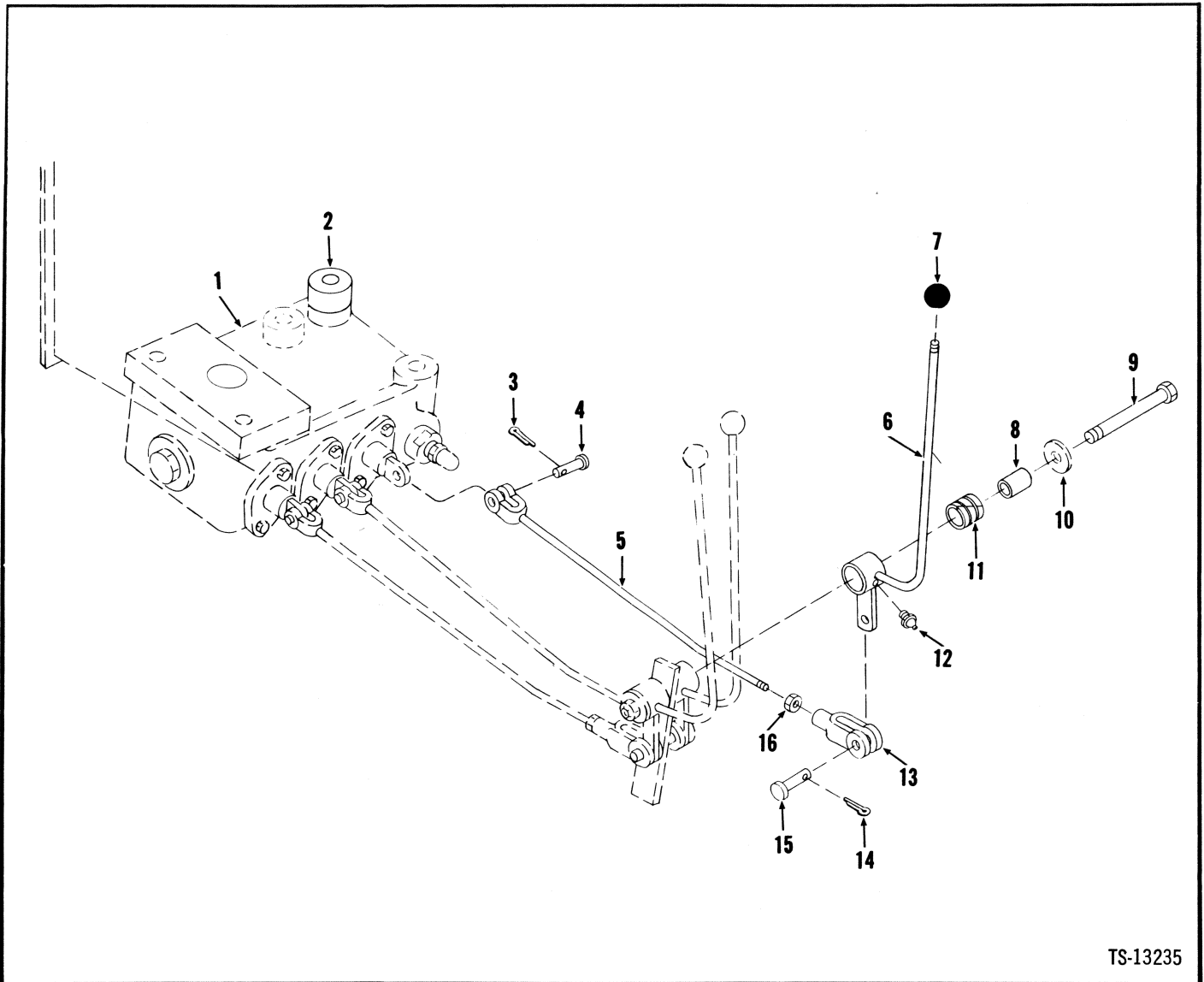
No.	Part No.	Qty.	Description
45	945503	1	Spring
46	25K-30014	1	O-ring
47	945226	1	Plunger eye
48	1C-512	2	Bolt
49	4E-05	2	Lockwasher
50	§ <sup>4</sup> -----	1	Plunger
51	888451	2	Retainer
52	25K-30014	1	O-ring
53	888456	1	Cap
54	888451	2	Retainer
55	886745	1	Bleeder plug
56	888455	1	Spring
57	1C-512	2	Bolt
58	4E-05	2	Lockwasher
59	960972	1	Plate
60	961006	1	Ring back-up
61	961004	1	Seal
62	871388	1	Spring
63	§ <sup>4</sup> -----	1	Plunger
64	945590	2	Check
65	961004	1	Seal
66	960966	1	Plate
67	960967	1	Plate
68	960968	1	Wiper
69	25K-30014	1	O-ring
70	945226	1	Plunger eye
71	1C-512	2	Bolt
72	4E-05	2	Lockwasher
73	980834	1	Screw
74	49D-08	1	Nut
75	613750	2	Washer
76	8D-08	1	Nut
77	980835	1	Cap
78	58K-210	2	O-ring
79	886753	1	Spring
80	886739	1	Poppet
81	25K-30020	1	O-ring
82	960964	1	Seat
83	40K-04	1	Plug
84	947791	1	Spring
85	960965	1	Check
86	960963	1	Seat
87	58K-210	1	O-ring
88	980838	1	Cap
89	25K-30014	1	O-ring

<sup>2</sup>Inc. 1→89

<sup>3</sup>Inc. 1→9, 26→31

<sup>4</sup>See A

<sup>5</sup>Inc. 11



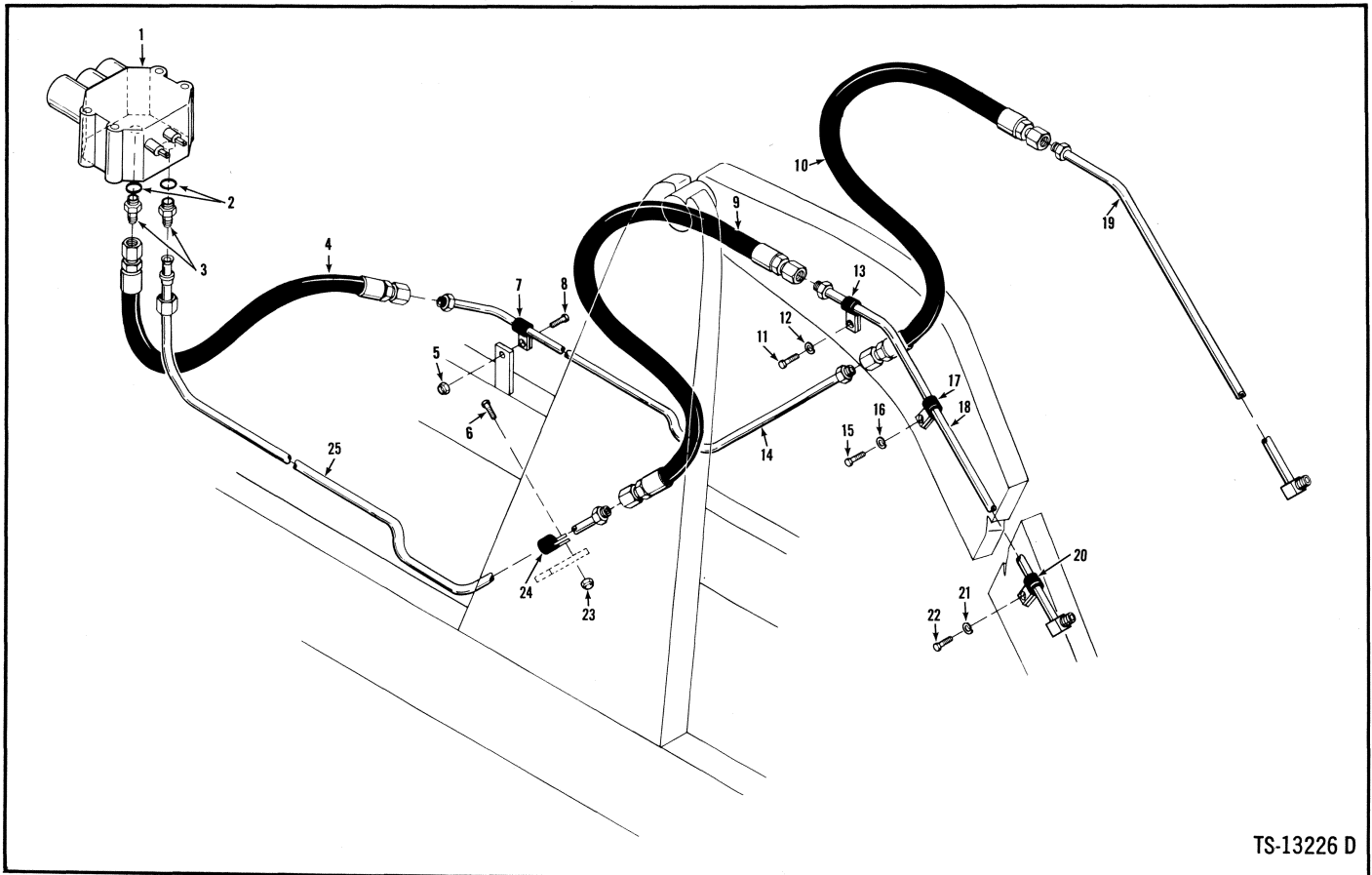
TS-13235

No.	Part No.	Qty.	Description
1	1-----	—	Valve
2	550288	1	Boss
3	1F-316	1	Pin cotter
4	4F-05062	1	Pin
5	2585330	1	Rod
6	562485	1	Lever
7	509772	1	Knob
8	1503251	1	Sleeve
9	24C-892	1	Bolt
10	-----	—	Omit
11	675227	1	Bushing
12	10H-25	1	Fitting grease
13	2J-6208	1	Clevis
14	1F-316	1	Pin cotter
15	4F-06106	1	Pin
16	8D-06	1	Nut

<sup>1</sup>See Index  
<sup>2</sup>Inc. 13 16







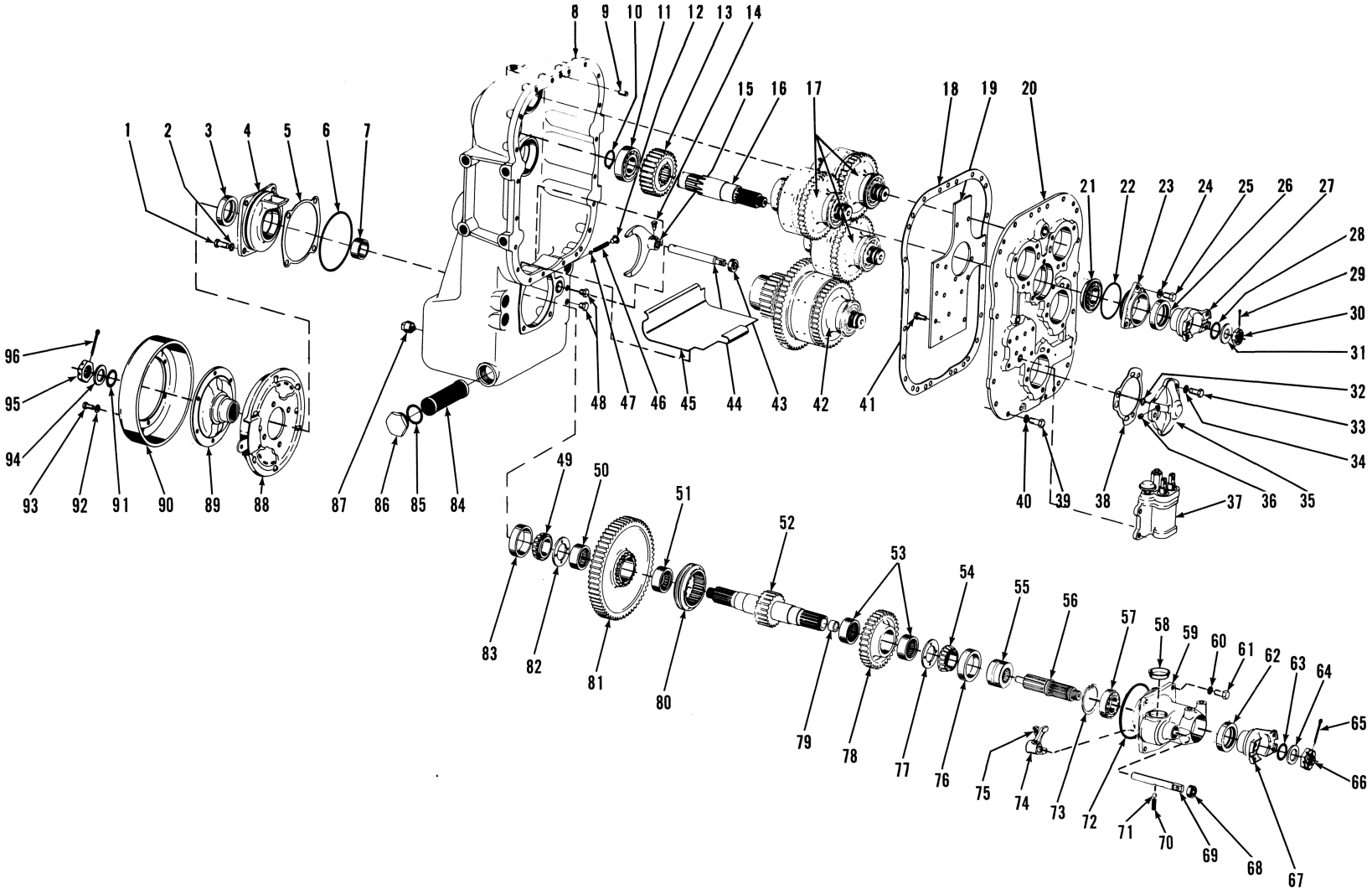
TS-13226 D

No.	Part No.	Qty.	Description
1	_____	—	Valve assy
2	91F-9	2	O-ring
3	<sup>2</sup> 562912	2	Adapter
4	562796	1	Hose
5	18D-06	1	Nut
6	24C-620	2	Bolt
7	30H-38	1	Clip
8	24C-620	1	Bolt
9	562796	1	Hose
10	562796	1	Hose
11	24C-616	2	Bolt
12	4E-06	2	Lockwasher
13	30H-38	2	Clip
14	1519909	1	Tube
15	24C-616	2	Bolt
16	4E-06	2	Lockwasher
17	30H-38	2	Clip
18	1523075	1	Tube L.H.
19	1523075	1	Tube R.H.
20	30H-38	2	Clip
21	4E-06	2	Lockwasher
22	24C-616	2	Bolt
23	18D-06	2	Nut
24	30H-38	2	Clip
25	1519907	1	Tube

<sup>1</sup>See Index

<sup>2</sup>Inc. 2





# Transmission Assembly

**MICHIGAN**

No.	Part No.	Qty.	Description
A	284581	1	Transmission assy
1	1C-820	4	Bolt
2	5E-08	4	Lockwasher
3	206864	1	Seal
4	215155	1	Cap
5	‡215156	—	Shim
5A	‡‡215157	—	Shim
5B	‡‡215158	—	Shim
6	25K-40524	1	O-ring
7	215162	1	Spacer
8	801363	1	Case
9	214295	2	Pin dowel
10	659065	1	Ring
11	225603	1	Bearing
12	40K-04	1	Plug
13	215166	1	Gear
14	201566	1	Screw
15	215146	1	Fork
16	215165	1	Shaft
17	1-----	3	Clutch group
18	215144	1	Gasket
19	215143	1	Plate
20	‡215141	1	Cover assy
21	225824	1	Bearing
22	25K-40316	1	O-ring
23	‡215198	1	Cap assy
24	4E-07	3	Lockwasher
25	1C-718	3	Bolt
26	206864	1	Seal
27	214940	1	Flange
28	25K-40112	1	O-ring
29	1F-428	1	Pin cotter
30	201951	1	Nut
31	102745	1	Washer
32	25K-30016	4	O-ring
33	1C-718	12	Bolt
34	4E-07	12	Lockwasher
35	215163	4	Cap
36	16F-02	4	Plug
37	1-----	1	Control valve assy
38	215164	4	Gasket
39	1C-718	20	Bolt
40	4E-07	20	Lockwasher
41	1C-614	15	Bolt
41A	5E-06	15	Lockwasher
42	1-----	1	Clutch group
43	234653	1	Seal
44	215145	1	Rail
45	228943	1	Plate
46	215191	1	Spring

No.	Part No.	Qty.	Description
47	10J-12	1	Ball
48	40K-04	2	Plug
49	‡223270	1	Bearing
50	225079	1	Bearing
51	225079	1	Bearing
52	215756	1	Shaft assy
53	225079	1	Bearing
54	‡223270	1	Bearing
55	209427	1	Hub
56	215208	1	Shaft
57	710749	1	Bearing
58	222418	1	Plug
59	215201	1	Housing
60	5E-08	4	Lockwasher
61	1C-820	4	Bolt
62	206864	1	Seal
63	25K-40112	1	O-ring
64	102745	1	Washer
65	-----	—	Omit
66	216058	1	Nut
67	214987	1	Flange
68	234650	1	Seal
69	215202	1	Rail
70	201844	1	Spring
71	10J-12	1	Ball
72	25K-40524	1	O-ring
73	662003	2	Ring
74	215203	1	Fork
75	201566	1	Screw
76	7-----	1	Cup
77	215154	1	Washer
78	‡215152	1	Gear assy
79	-----	—	Omit
80	215149	1	Hub
81	‡215150	1	Gear assy
82	215154	1	Washer
83	10-----	1	Cup
84	215205	1	Screen
85	219373	1	Gasket
86	219370	1	Plug
87	215757	1	Plug
88	1-----	1	Brake assy
89	215161	1	Flange
90	215160	1	Drum
91	25K-40112	1	O-ring
92	4E-06	6	Lockwasher
93	2C-612	6	Bolt
94	102745	1	Washer
95	216058	1	Nut
96	-----	—	Omit

<sup>1</sup>See Index

<sup>2</sup>Inc. 1→96

<sup>3</sup>Inc. 19, 41, 41A

<sup>4</sup>Inc. 26

<sup>5</sup>Inc. 83

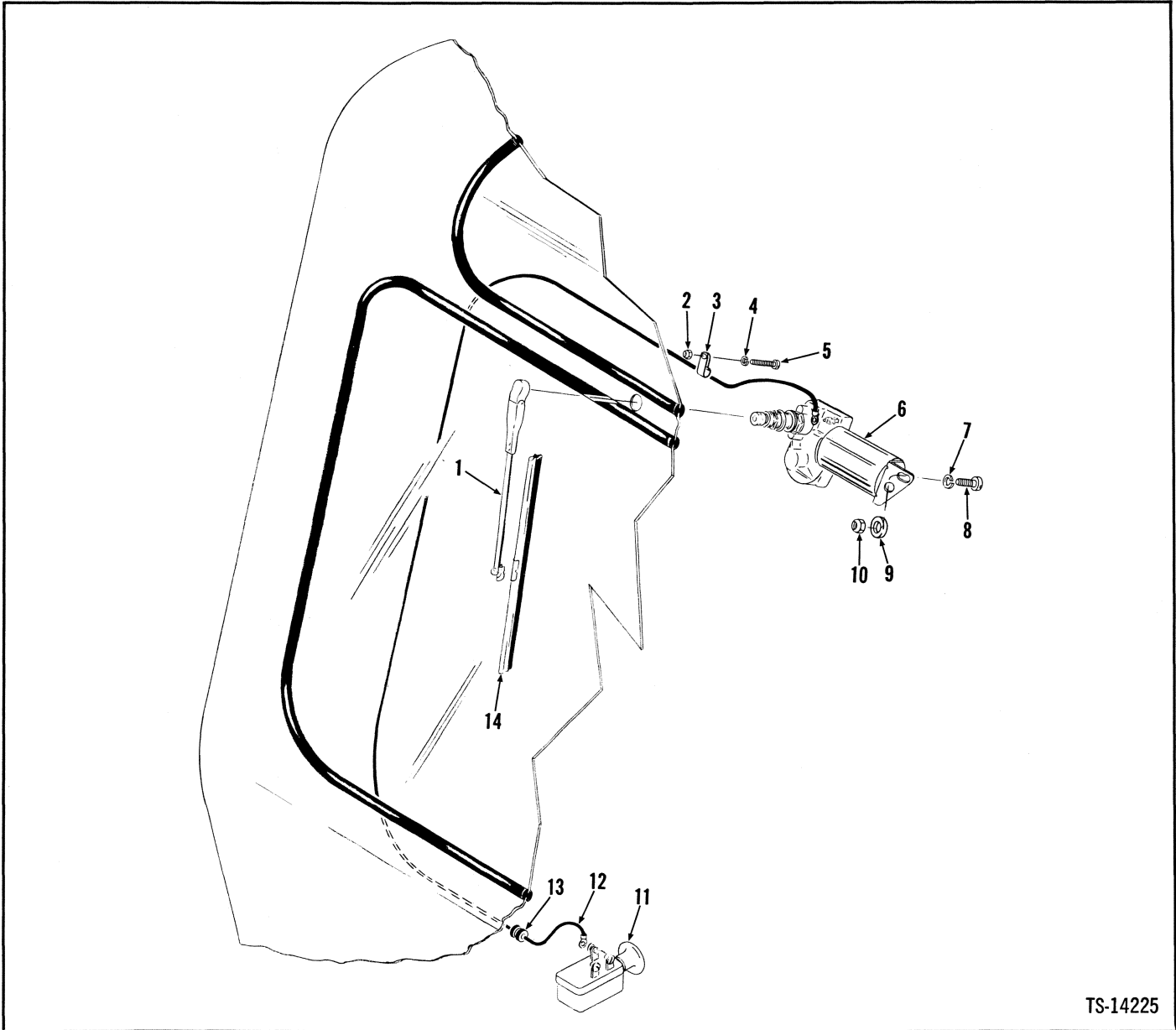
<sup>6</sup>Inc. 76

<sup>7</sup>See 54

<sup>8</sup>Inc. 53

<sup>9</sup>Inc. 50, 51

<sup>10</sup>See 49



TS-14225

No.	Part No.	Qty.	Description
1	351195	1	Wiper arm
2	14D-10	4	Nut
3	30H-9	4	Clip
4	12E-10	4	Lockwasher
5	86G-1008	4	Screw
6	557873	1	Wiper motor
7	12E-10	1	Lockwasher
8	86G-1008	1	Screw
9	664380	1	Spacer
10	14D-10	1	Nut
11	<sup>2</sup> _____	1	Switch light
12	558283	1	Wire assy
13	550910	1	Grommet
14	881320	1	Wiper blade

<sup>2</sup>See Electrical Section

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