2. SPECIFICATIONS

Engine

14 Series includes TD-14 and UD-14
14A Series includes TD-14A, TD-14A (141), TD-14 (142) and UD-14A
18 Series includes TD-18 and UD-18
18A Series includes TD-18A, TD-18A (181), TD-18 (182), TD-20 (200 & 201), UD-18A, and UD-691

DESCRIPTION	14 and 14A SERIES	18 and 18A SERIES
GENERAL DATA		
Number of cylinders	4	6
Type of cylinder sleeves	Replaceable, wet	Replaceable, wet
Bore and stroke - inches	4-3/4 x 6-1/2	4-3/4 x 6-1/2
Displacement - cubic inches	460.7	691.1
Engine speed - rpm		
Full load, governed	1350 UD-14 1500 ± 10 UD-14A ⊖ 1650 ± 10 UD-14A ⊖⊖ 1400 TD-14 1400 TD-14A 1500 TD-14A (141) 1650 ± 10 TD-14 (142)	1400 UD-18 1600 UD-18A 1300 TD-18 1350 TD-18A 1450 TD-18A (181) 1450 ± 10 TD-18 (182)* 1550 ± 10 TD-18 (182)** 1550 ± 10 TD-20 (200) 1600 ± 10 UD-691
High idle	1500 UD-14 1635 ± 30 UD-14A ⊖ 1800 ± 30 UD-14A ⊖⊖ 1555 TD-14 1555 TD-14A 1635 ± 30 TD-14A (141) 1800 ± 30 TD-14 (142)	1555 UD-18 1775 ± 30 UD-18A 1445 TD-18 1500 TD-18A 1580 ± 30 TD-18A (181) 1580 ± 30 TD-18 (182)* 1690 ± 30 TD-18 (182)** 1690 ± 30 TD-20 (200) 1745 ± 30 UD-691
Low idle	450-550	450-550
Gasoline cycle, starting	900-1200	900-1200
Compression ratio		
Starting	6.45:1	6.45:1
Running	15.0:1	15.0:1
Compression pressure psi (measured at 1000 rpm)	423-467 (14) 513-567 (14A)	423-467 (18) 513-567 (18A)
CRANKSHAFT		
Crank pin, diameter-inches	3.2475-3.2485	3.2475-3.2485
Main journal diameter-inches	3.2475-3.2485	3.4975-3.4985
Maximum permissible journal out-of-roundness, before reconditioning - inch	.004	.004
Number of main bearings	5	7
Main bearing running clearance - inch	.0024-.0050 (14) .0024-.0054 (14A)	.0024-.0045 (18) .0036-.0066 (18A)

*Tractor chassis serial number TD-182-36101 to 38639.
**Tractor chassis serial number TD-182-38640 up.
⊖Tractor chassis serial number UDF-20001 to 40040.
⊖⊖Tractor chassis serial number UDF-40041 up.

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DESCRIPTION	14 and 14A SERIES	18 and 18A SERIES
Maximum permissible main bearing clearance, before reconditioning - inch	.009	.009
End clearance - inch	.008-.012	.008-.012
Maximum permissible end clearance, before re-conditioning - inch	.024	.024
Main bearing bore in crankcase (line reamed), inches	3.5515 - 3.5525	3.8015 - 3.8025
CAMSHAFT		
Running clearance - inch	.0015-.0035	.0015-.0035
Maximum permissible running clearance - inch	.006	.006
End clearance - inch	.005-.011	.005-.011
Maximum permissible end clearance - inch	.025	.025
Service bushings furnished	Reamed to size	Reamed to size
Cam lobe lift, inch	.3115	.3115
Maximum permissible cam-shaft lobe wear - inch	.020	.020
Number of teeth in drive gear	54	54
Number of bearings	3	4
Bearing journal diameter		
Front - inches	2.6180-2.6190	2.6180-2.6190
Second - inches	2.3680-2.3690	2.4305-2.4315
Third - inches	- - - - - - -	2.3680-2.3690
Rear - inches	1.7475-1.7485	1.9305-1.9315
CONNECTING RODS		
Side clearance - inch	.005-.015	.005-.015
Bearing running clearance - inch	.0019-.0045 (14) .0025-.0055 (14A)	.0019-.0045 (18) .0025-.0055 (18A)
Maximum permissible bearing running clearance - inch	.007	.007
Connecting rod bolts		
Number per rod	4	4
Length - inches	4-11/32	4-11/32
Thread	1/2 - 20 NF	1/2 - 20 NF
PISTONS		
Length over-all - inches	6-3/16	6-3/16
Skirt clearance - measured 90° from pin hole		
Bottom - inch	.006 - .010	.006 - .010
Top - inch	.008 - .012	.008 - .012

2. SPECIFICATIONS - Continued

Engine - Continued

14 Series includes TD-14 and UD-14
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18 Series includes TD-18 and UD-18
18A Series includes TD-18A, TD-18A (181), TD-18 (182), TD-20 (200 & 201), UD-18A and UD-691

DESCRIPTION	14 and 14A SERIES	18 and 18A SERIES
PISTONS - continued		
Number of rings per piston	6	6
Number of rings below pin	1	1
Width of ring groove		
Top compression - inch	.1280-.1290	.1280-.1290
Second compression - inch	.1270-.1280	.1270-.1280
Third compression - inch	.1265-.1275	.1265-.1275
Fourth compression - inch	.1265-.1275	.1265-.1275
Oil control - inch	.2515-.2525	.2515-.2525
Ring clearance in groove		
Top compression - inch	.0040-.0055	.0040-.0055
Second compression - inch	.0030-.0050	.0030-.0050
Third compression - inch	.0025-.0045	.0025-.0045
Fourth compression - inch	.0025-.0045	.0025-.0045
Oil control - inch	.0025-.0040	.0025-.0040
PISTON RINGS - Compression		
Number of rings per piston	4	4
Type (face and finish)		
Top	Tapered chrome	Tapered chrome
Second, Third and Fourth	Tapered	Tapered
Width		
Top - inch	.1235-.1240	.1235-.1240
Second, Third and Fourth - inch	.1235-.1240	.1235-.1240
Ring gap (all compression rings) - inch	.014-.030	.014-.030
Maximum permissible ring gap, before replacing; all rings - inch	.070	.070
PISTON RINGS - Oil Control		
Number of rings per piston	2	2
Type	1 - piece slotted	1 - piece slotted
Width - inch	.2485-.2490	.2485-.2490
Ring gap - inch	.020-.036	.020-.036
Maximum permissible ring gap, before replacing - inch	.060	.060
PISTON PINS		
Diameter - inches	1.6250-1.6252	1.6250-1.6252
Length - inches	4.100-4.110	4.100-4.110
Clearance between end of pin and retainer ring - inch	.012-.044	.012-.044

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DESCRIPTION	14 and 14A SERIES	18 and 18A SERIES
Clearance in rod bushing - inch	.0005-.0009	.0005-.0009
Maximum permissible clearance in rod bushing, before reconditioning - inch	.004	.004
Clearance in piston - inch	.0001 (tight)-.0003 (loose)	.0001 (tight)-.0003 (loose)
Maximum permissible clearance in piston, before reconditioning - inch	.0025	.0025
CYLINDER SLEEVES		
Diameter, inside - inches	4.7490-4.7510	4.7490-4.7510
Length - inches	11-3/4	11-3/4
Maximum permissible diameter sleeve wear (at top of ring travel) - inch	.010	.010
Vertical distance, top surface of cylinder head gasket ring (installed) extends above top surface of crankcase - inch	.0655 - .0715	.0655 - .0715
INTAKE VALVES		
Stem diameter - inch	.432-.433	.432-.433
Port diameter - inches	1-25/32	1-25/32
Head diameter - inches	2	2
Stem clearance in guide - inch	.0015 - .004	.0015 - .004
Maximum permissible stem clearance in guide before reconditioning - inch	.008	.008
Valve face angle, between seat and bottom of valve head - degrees	45	45
Valve seat angle in cylinder head - degrees	45	45
Tappet clearance		
Hot - inch	.018	.018
Cold - inch	.020	.020
EXHAUST VALVES		
Stem diameter - inch	.431-.432	.431-.432
Port diameter - inches	1-17/32	1-17/32
Head diameter - inches	1-3/4	1-3/4
Stem clearance in guide - inch	.0025 - .005	.0025 - .005
Maximum permissible stem clearance in guide before reconditioning - inch	.008	.008
Valve face angle, between seat and bottom of cylinder head - degrees	45	45
Valve seat angle in cylinder head - degrees	45	45
Tappet clearance		
Hot - inch	.018	.018
Cold - inch	.020	.020

2. SPECIFICATIONS - Continued

Engine - Continued

14 Series includes TD-14 and UD-14
14A Series includes TD-14A, TD-14A (141), TD-14 (142) and UD-14A
18 Series includes TD-18 and UD-18
18A Series includes TD-18A, TD-18A (181), TD-18 (182), TD-20 (200 & 201), UD-18A and UD-691

DESCRIPTION	14 and 14A SERIES	18 and 18A SERIES
INTAKE AND EXHAUST VALVE GUIDES		
Length - inches	5	5
Inside diameter - inch	.4345 - .436	.4345 - .436
Set height of guide - inch	1-3/8	1-3/8
measured up from	Top face of cylinder head	Top face of cylinder head
INTAKE AND EXHAUST VALVE SPRINGS		
Outside diameter - inches	1-37/64 (14) 1-17/32 (14A)	1-37/64 (18) 1-17/32 (18A)
Free length - inches	2-7/8 (14) 3-5/32 (14A)	2-7/8 (18) 3-5/32 (18A)
Length, valve open - inches	2	2
Length, valve closed - inches	2-1/2	2-1/2
Test load, valve open - pounds	147-158 (14) 115-125 (14A)	147-158 (18) 115-125 (18A)
Test load, valve closed - pounds	50-56 (14) 55-60 (14A)	50-56 (18) 55-60 (18A)
STARTING VALVES		
Stem diameter - inch	.3710-.3720 (14) .3085-.3095 (14A)	.3710-.3720 (18) .3085-.3095 (18A)
Port diameter - inch	1-3/16 (14) 1 (14A)	1-3/16 (18) 1 (18A)
Head diameter - inches	1-9/32 (14) 1-3/32 (14A)	1-9/32 (18) 1-3/32 (18A)
Stem clearance in guide - inch	.002-.004	.002-.004
Maximum permissible stem clearance in guide before reconditioning - inch.	.008	.008
Valve angle - degrees	45	45
Valve seat angle in cylinder head - degrees	45	45
Width of valve seat - inch	3/64	3/64
Approximate free movement of valve spring cover in cylinder head (gasoline position) - inch	1/64	1/64

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18 Series includes TD-18 and UD-18
18A Series includes TD-18A, TD-18A (181), TD-18 (182), TD-20 (200 & 201), UD-18A and UD-691

DESCRIPTION	14 and 14A SERIES	18 and 18A SERIES
STARTING VALVE GUIDES		
Length - inches	2-11/16	2-11/16
Inside diameter - inch	.374-.375 (14) .3115-.3125 (14A)	.374-.375 (18) .3115-.3125 (18A)
Set height of guide - inch	15/16	15/16
measured downward from	Top face of cylinder head	Top face of cylinder head
STARTING VALVE SPRINGS		
Outside diameter - inch	29/32	29/32
Free length - inches	1-31/32 ± 1/16	1-31/32 ± 1/16
Test length - inches	1-5/32	1-5/32
Test load - pounds	22.7 -25.1	22.7 - 25.1
VALVE LEVER AND SHAFT		
Valve lever shaft diameter - inch	.9655-.9665	.9655-.9665
Running clearance, valve lever on shaft - inch	.0005-.0025	.0005-.0025
Maximum permissible running clearance, valve lever on shaft - inch	.010	.010
Valve lever bushing		
Inside diameter - inch	.967-.968	.967-.968
Length - inches	1-1/4	1-1/4
VALVE TAPPETS		
Head diameter - inches	1.458-1.478	1.458-1.478
Stem diameter - inch	.623-.624	.623-.624
Clearance in guide - inch	.0005-.0030	.0005-.0030
VALVE TIMING		
Intake opens - degrees before TDC	10° (14) 20° (14)* 20° (14A)	10° (18) 20° (18)* 20° (18A)
Intake closes - degrees after BDC	25° (14) 40° (14)* 40° (14A)	25° (18) 40° (18)* 40° (18A)

* Engine equipped with 14A or 18A camshafts and valve springs.

2. SPECIFICATIONS - Continued

Engine - Continued

14 Series includes TD-14 and UD-14
14A Series includes TD-14A, TD-14A (141), TD-14 (142) and UD-14A
18 Series includes TD-18 and UD-18
18A Series includes TD-18A, TD-18A (181), TD-18 (182), TD-20 (200 & 201), UD-18A and UD-691

DESCRIPTION	14 and 14A SERIES	18 and 18A SERIES
VALVE TIMING - Continued		
Exhaust opens - degrees before BDC	43° (14) 40° (14)* 40° (14A)	43° (18) 40° (18) * 40° (18A)
Exhaust closes - degrees after TDC	10°	10°
* Engines equipped with 14A or 18A camshafts and valve springs.		
VALVE PUSH ROD		
Diameter - inch	7/16	7/16
Length - inches	17-3/32	17-3/32
CYLINDER HEAD STUDS		
Diameter - inch	5/8	5/8
CYLINDER HEAD GASKET		
Thickness compressed - inch	.062-.067	.062-.067
TIMING GEARS		
Backlash between any pair of gears - inch (except idler and injection pump gear)	.003-.006	.003-.006
Maximum permissible backlash between any pair of gears, before reconditioning - inch (except idler and injection pump gear)	.010	.010
Backlash between idler gear and injection pump gear - inch	.003-.009	.003-.009
Maximum permissible backlash between idler gear and injection pump gear before reconditioning - inch	.013	.013
Idler gear end clearance - inch	.009-.013	.009-.013
Maximum permissible idler gear end clearance before reconditioning - inch	.020	.020
Idler gear bushing to shaft clearance - inch	.001-.0025	.001-.0025
Maximum permissible idler gear bushing to shaft clearance before reconditioning - inch	.0055	.0055
Ream new idler gear bushing ID - inch	1.500-1.501	1.500-1.501

14 Series includes TD-14 and UD-14
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18 Series includes TD-18 and UD-18
18A Series includes TD-18A, TD-18A (181), TD-18 (182), TD-20 (200 & 201), UD-18A and UD-691

DESCRIPTION	14 and 14A SERIES	18 and 18A SERIES
LUBRICATING SYSTEM		
Type	Forced feed	Forced feed
Oil filter (Purolator, radial fin) - type	By-pass (14) Full-flow (14A)	By-pass (18) Full-flow (18A)
Number used	2	2
LUBRICATING OIL VALVE LOCATIONS		
Pressure regulating	Oil filter base	Oil pump (by-pass system) Oil filter base (full-flow system)
Safety	- - - - - - -	Oil pump (full-flow system only)
By-pass	Oil filter base (14A) (full-flow system only)	Oil filter base (18A) (full-flow system only)
LUBRICATING OIL VALVE SPRINGS		
Pressure regulating		
Free length - inches	3-39/64 (14 with by-pass system) 4-13/64 - 4-17/64 (14A with by-pass system) 3-41/64 (14A with full-flow system)	2-25/32 - 2-27/32 (18 and 18A with by-pass system) 4-15/64 (18A with full-flow system) - - - - - - - - - -
Test length - inches	2-3/32 (14 and 14A with by-pass system) 1-7/8 (14A with full-flow system)	2-3/32 (18 and 18A with by-pass or full-flow system) - - - - - - - - - -
Test load - pounds	36.3-40.1 (14 with by-pass system) 25.65-28.35 (14A with by-pass or full-flow system)	35.15-38.85 (18 and 18A with by-pass system) 38.95-43.05 (18A w/full-flow system)
By-pass (Full-flow only)		
Free length - inches	5.28	5.28
Test length - inches	2-5/32	2-5/32
Test load - pounds	9-11	9-11
Safety (Full-flow only)		
Free length - inches	- - - - - - - - - -	3-39/64
Test length - inches	- - - - - - - - - -	2-3/32
Test load - pounds	- - - - - - - - - -	36.3-40.1
PRESSURE REGULATING VALVE		
Opening pressure - psi	38-46	38-46

2. SPECIFICATIONS - Continued

Engine - Continued

14 Series includes TD-14 and UD-14
14A Series includes TD-14A, TD-14A (141), TD-14 (142) and UD-14A
18 Series includes TD-18 and UD-18
18A Series includes TD-18A, TD-18A (181), TD-18 (182), TD-20 (200 & 201), UD-18A and UD-691

DESCRIPTION	14 and 14A SERIES	18 and 18A SERIES
LUBRICATING OIL PUMP		
End play-between gear and end plate - inch	.0055-.0105	.0055-.0105
Clearance, gear to housing - inch	.0080-.0095	.0080-.0095
Backlash-between idler and body gears - inch	.008-.012	.008-.012
Backlash-between drive pinion and camshaft - inch	.005-.010	.005-.010
Drive shaft journals, diameter - inch	.8594-.8602	.8594-.8602
Drive shaft running clearance - inch	.0013-.0031	.0013-.0031
Idler gear running clearance - inch	.0015-.0030	.0015-.0030
Clearance between oil pump body and drive pinion - inch	.010-.020	.010-.020
ENGINE BALANCER*		
Backlash-between driving weight and driven weight gears - inch	.003-.009	- - - - -
Backlash-between drive gear and driving weight gear - inch	.003-.007	- - - - -
Backlash-between crankshaft gear and balancer idler gear - inch	.003-.009	- - - - -
Backlash-between idler and pinion gear - inch	.003-.009	- - - - -
Balancer weight shaft bore in housing - inches	1.1245-1.1255	- - - - -
Balancer weight shaft bushing ID (Reamed in assembly) - inch	.985-.986	- - - - -
Balancer weight shaft		
Diameter - inch	.9825-.9830	- - - - -
Running clearance - inch	.0020-.0035	- - - - -
Balancer drive shaft		
Diameter - inch	.7480-.7485	- - - - -
Running clearance - inch	.0015-.0030	- - - - -
Balancer drive shaft bushing ID (Reamed in assembly) - inch	.7500-.7510	- - - - -
Balancer drive shaft end play - inch	.010-.015	- - - - -
Pinion thrust washer thickness - inch	.178-.198	- - - - -

* For 14A Series engines so equipped.

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14 Series includes TD-14 and UD-14
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18 Series includes TD-18 and UD-18
18A Series includes TD-18A, TD-18A (181), TD-18 (182), TD-20 (200 & 201), UD-18A and UD-691

DESCRIPTION	14 and 14A SERIES	18 and 18A SERIES
FUEL TRANSFER PUMP (Power units only)		
Approximate fuel pump rpm	1090 (14) 1129 (14A)	1138 (18) 1600 (18A)
Gallons per hour at normal temperature with a 4 foot vertical suction lift	16 (14) 17 (14A)	16 (18) 52 (18A)
WATER PUMP		
Type	Centrifugal	Centrifugal
Type of seal	Packing	Packless
Rotation	Clockwise	Clockwise
Impeller shaft diameter - inch	.6215-.6220	- - - - - -
Impeller shaft running clearance - inch	.0025-.0035	(Ball bearing)
Clearance from face of body to face of impeller hub - inch	- - - - - -	.182-.192 (late 18 series without jet type cooling) .055-.065 (late 18 series with jet type cooling) .088-.098 (early 18 series)
THERMOSTATS		
Number used	1	2
Begin to open at - degrees	165° F.	165° F.
Wide open at - degrees	190° F.	190° F.
FAN AND WATER PUMP DRIVE		
Units driven	Fan and pump	Fan and pump
Number and type of belts	Single V-belt	Double V-belt
Belt adjustment - slack between pulleys - inch	1/2 - 3/4	3/4-1
SPARK PLUG		
Gap, inch.	.023	.023
Thread dia.	18 mm	18 mm
Hex size, inch	7/8	7/8

2. SPECIFICATIONS - Continued

Engine - Continued

14 Series includes TD-14 and UD-14
14A Series includes TD-14A, TD-14A (141), TD-14 (142) and UD-14A
18 Series includes TD-18 and UD-18
18A Series includes TD-18A, TD-18A (181), TD-18 (182), TD-20 (200 & 201), UD-18A and UD-691

DESCRIPTION	14 and 14A SERIES	18 and 18A SERIES
SPECIAL NUT AND BOLT TORQUE DATA		
In foot-pounds*		
Cylinder head stud nuts	180-200	180-200
Cylinder head stud to crankcase	50-120	50-120
Connecting rod nuts **	70-75	70-75
Main bearing cap		
Stud nuts	150-155 (14)	150-155 (18)
Stud nuts or bolts	225-245 (14A) (141) (142)	225-245 (18A)
Flywheel bolts	170-190	170-190
Manifold stud nuts	75-80 (Intake and Exhaust)	75-80 (Intake) 55-65 (Exhaust)
Nozzle body stud nuts	45-50	45-50
Nozzle body stud to cylinder head	25-70	25-70
Nozzle fitting cap screws	30-35	30-35
Idler gear shaft nut	225-250	225-250
Water pump drive shaft nut to shaft or sleeve	150-175	150-175
Front pulley nut to crankshaft	325-375	325-375
Camshaft gear nut	225-250	225-250
Rear oil seal and retainer plate cap screws	30	30
Injection pump drive hub nut	115-125	115-125
Injection pump gear nut	- - - -	120-130
Injection pump drive coupling nut	- - - -	45-50
Timing pointer cap screws to injection pump coupling	21-24	- - - -
Hydraulic pump or magneto gear nut	90-100	90-100
Water pump cap screws and nuts		
3/8 inch.	- - - -	35-40
1/2 inch.	60-70	60-70
Oil pan draining plug	30-35	30-35
Spark plug	37	37

*All torques are given with bolts, studs, and nuts lubricated with SAE-30 engine oil, unless otherwise specified.
**Connecting rod bolts are to be lubricated with a mixture of white lead and L-5 lubricating oil.

NOTE: All bolts and nuts not shown in this chart must be torqued according to the "STANDARD TORQUE DATA CHART" shown on the following page.

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Engine – Continued

STANDARD TORQUE DATA FOR NUTS AND BOLTS
(For applications not covered in preceding "Special Nut and Bolt Torque Data")

Recommended torques, in foot-pounds, for standard application nuts and bolts shown below is applicable, provided:

A. All threads are lubricated with engine oil or chassis grease. (Refer to NOTE.)

B. Joints are rigid; for example, no gaskets or compressible materials are used.

NOTE:

1. Multiply the standard torque by .85 when metallic plated bolts or nuts are used.
2. Multiply the standard torque by .75 when parkerized bolts or nuts are used.
3. Multiply the standard torque by .70 when Molykote, white lead or similar mixtures are used as lubricants.
4. Multiply the standard torque by .90 when hardened surfaces are used under the nut or bolt head.

Bolt Size	Type 2		Type 4	
	Min.	Max.	Min.	Max.
1/4	9	10	12	14
5/16	19	21	27	30
3/8	33	37	45	50
7/16	53	60	75	85
1/2	80	90	115	130
9/16	110	125	160	180
5/8	160	180	220	250
3/4	290	320	400	450
7/8	420	470	650	730
1	630	710	970	1090
1-1/8	850	950	1380	1550
1-1/4	1200	1350	1940	2180

BOLT TYPE IDENTIFICATION CHART

IH Type	SAE Grade	DESCRIPTION	BOLT HEAD * MARKING
2	5	WILL HAVE AN IH AND 3 RADIAL LINES Quenched and tempered medium carbon steel	
4	8	WILL HAVE AN IH AND 6 RADIAL LINES Quenched and tempered special carbon or alloy steel	

* The center marking identifies the bolt manufacturer. The IH monogram is currently used. Some bolts may still have a raised dot which previously identified IH bolts.

2. SPECIFICATIONS - Continued

Engine – Continued

14 Series includes TD-14 and UD-14
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18 Series includes TD-18 and UD-18
18A Series includes TD-18A, TD-18A (181), TD-18 (182), TD-20 (200 & 201), UD-18A and UD-691

DESCRIPTION	MAGNETO 14 and 14A SERIES	18 and 18A SERIES
Make	IH	IH
Magneto model	H-4	F-6
No. of cylinders	4	6
Magneto (Alnico Alloy)	Rotating	Fixed
Ground switch	Automatic	Automatic
Rotation	Counterclockwise	Clockwise
Breaker point gap - inch	.013	.020
Spark advance - degrees	7	5
Distributor pinion backlash - inch	.004 Max.	.004 Max.
Impulse coupling trips at	TDC	4° after TDC
Shaft end clearance - inch	.003-.013	.004-.014
Magneto gear (No. of teeth)	27	36
Magneto drive shaft diameter - inch	.9995-1.0005	.8720-.8725
Drive gear	Camshaft	Magneto drive bracket idler
Bushing diameter - inch	1.0015-1.0030	.874-.875

DESCRIPTION	DISTRIBUTOR 14 and 14A SERIES	18 and 18A SERIES
Make	IH	IH
Distributor model	H	K
Number of cylinders	4	6
Rotation (viewed from drive end)	Clockwise	Clockwise
Breaker point gap - inch	.020	.020
Breaker lever spring tension - ounces	23 ± 2	23 ± 2
Spark advance	8° at 1000 rpm	Fixed
Volts	12	12

CRANKING MOTOR CHART A

Tractor or Power unit Model	Cranking Motor Model Number (Delco-Remy)	Tractor or Power Unit Model	Cranking Motor Model Number (Delco-Remy)
TD-14A	710 1109014	TD-18A (181) TD-18 (182)	756 1113302 or 1113368
TD-14A (141)	1109014	TD-20 (200 and 201)	1113339, 1113346 or 1113368
TD-14 (142)	1113303	UD-18A	1109106
UD-14A	1109108	UD-691	1109106
TD-18A	756		

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CRANKING MOTOR
CHART B

Cranking Motor Model Number Delco-Remy	Voltage	Type of Drive	Rotation (Viewing drive end)	Brush Spring Tension (Ounces)	No-Load Test	Lock Test
710	12	Bendix	Clockwise	36-40	100 amps. at 11.3 volts at 2250 rpm.	55 ft. lbs. at 700 amps. at 5.0 volts
756	12	Bendix	Clockwise	36-40	75 amps. at 11.3 volts at 2250 rpm.	55 ft. lbs. at 700 amps. at 5.0 volts
1109014	12	Bendix	Clockwise	36-40	75 amps. at 11.3 volts at 2250 rpm.	55 ft. lbs. at 700 amps. at 5.0 volts
1109106	12	Bendix	Clockwise	36-40	65 amps. at 12.0 volts at 4500 rpm.	44 ft. lbs. at 725 amps. at 4.8 volts
1109108	12	Bendix	Clockwise	36-40	65 amps. at 12.0 volts at 4500 rpm.	44 ft. lbs. at 725 amps. at 4.8 volts
1113302	12	Overrunning Clutch	Clockwise	28-36	65 amps. at 11.4 volts at 6000 rpm.	44 ft. lbs. at 725 amps. at 5.0 volts
1113303	12	Overrunning Clutch	Clockwise	28-36	65 amps. at 11.4 volts at 6000 rpm.	44 ft. lbs. at 725 amps. at 5.0 volts
1113339	12	Overrunning Clutch	Clockwise	28-36	65 amps. at 11.4 volts at 6000 rpm.	44 ft. lbs. at 725 amps. at 5.0 volts
1113346	12	Overrunning Clutch	Clockwise	48	65 amps. at 11.4 volts at 6000 rpm	28 ft. lbs. at 500 amps. at 3.2 volts
1113368	12	Overrunning Clutch	Clockwise	80	65 amps. at 11.4 volts at 6000 rpm	28 ft. lbs. at at 500 amps. at 3.2 volts

GENERATOR
CHART A

Tractor or Power Unit Model	Generator Model Number 6 Volt	Generator Model Number 12 Volt	Voltage Regulator Model Number 12 Volt	Generator Relay Model Number 6 Volt	Generator Relay Model Number 12 Volt
TD-14A	1101355	- - - - -	- - - - -	1116777	- - - - -
	- - - - -	1101725	- - - - -	- - - - -	1116766
	- - - - -	1100964	1118779 or 1118381	- - - - -	- - - - -
TD-14A (141)	- - - - -	1100964	1118779	- - - - -	- - - - -
TD-14 (142)	- - - - -	1105102	1119152	- - - - -	- - - - -
UD-14A	- - - - -	1101738	5838	- - - - -	- - - - -
	- - - - -	1100964	1118779 or 1118381	- - - - -	- - - - -
TD-18A	- - - - -	1101724	- - - - -	- - - - -	1116810
	- - - - -	1100986	- - - - -	- - - - -	1116810
	- - - - -	1100988	1118306	- - - - -	- - - - -
TD-18A (181)	- - - - -	1100988	1118306	- - - - -	- - - - -
TD-18 (182)	- - - - -	1105102	1119152	- - - - -	- - - - -
UD-18A	- - - - -	1101737	5838	- - - - -	- - - - -
	- - - - -	1100987	5838	- - - - -	- - - - -
	- - - - -	1100988	1118306	- - - - -	- - - - -
TD-20 (200 & 201)	- - - - -	1105102	1119152	- - - - -	- - - - -
UD-691	- - - - -	1100988	1118306	- - - - -	- - - - -

2. SPECIFICATIONS - Continued

GENERATOR
CHART B

Generator Model Number	Make	Voltage	Type	Field Current	Cold Output	Hot Output	Brush Spring Tension Oz. *	Rotation	Commutator End Bearing	Drive End Bearing
1100964	DR	12	Fixed Third Brush	2.0-2.14 amps. at 12 volts **	11-13 amps. at 14.0 volts at 2300 rpm.	9-11 amps. at 13.8-14.2 volts at 2400 rpm.	24	Clockwise	Bronze Bushing	Ball Bearing
1100986	DR	12	Adjustable Third Brush	2.0-2.14 amps. at 12 volts	8-10 amps. at 14.5-14.9 volts at 2100 rpm.	6-8 amps. at 14.1-14.5 volts at 2300 rpm.	16	Clockwise	Bronze Bushing	Ball Bearing
1100987	DR	12	Fixed Third Brush	2.0-2.14 amps. at 12 volts	8-10 amps. at 14.5-14.9 volts at 2100 rpm.	6-8 amps. at 14.1-14.5 volts at 2300 rpm.	16	Clockwise	Bronze Bushing	Ball Bearing
1100988	DR	12	Fixed Third Brush	2.0-2.14 amps. at 12 volts	11-13 amps. at 14.0 volts at 2300 rpm.	9-11 amps. at 14 volts at 2400 rpm.	16	Clockwise	Bronze Bushing	Ball Bearing
1101355	DR	6	Adjustable Third Brush	3.5-4.5 amps. at 6 volts	13-16 amps. at 7.7-8.1 volts at 1800 rpm.	9-11 amps. at 7.3-7.6 volts at 1900 rpm.	16	Clockwise	Bronze Bushing	Ball Bearing
1101724	DR	12	Adjustable Third Brush	1.48-1.56 amps. at 12 volts	8-10 amps. at 14.4-14.9 volts at 2200 rpm.	6-8 amps. at 14.1-14.5 volts at 2400 rpm	16	Clockwise	Bronze Bushing	Ball Bearing
1101725	DR	12	Adjustable Third Brush	1.48-1.56 amps. at 12 volts	8-10 amps. at 14.4-14.9 volts at 2200 rpm.	6-8 amps. at 14.1-14.5 volts at 2400 rpm.	16	Clockwise	Bronze Bushing	Ball Bearing
1101737	DR	12	Fixed Third Brush	1.6-1.69 amps. at 12 volts	8-10 amps. at 14.4-14.9 volts at 2200 rpm.	6-8 amps. at 14.1-14.5 volts at 2400 rpm.	16	Clockwise	Bronze Bushing	Ball Bearing
1101738	DR	12	Fixed Third Brush	1.6-1.69 amps. at 12 volts	8-10 amps. at 14.4-14.9 volts at 2200 rpm.	6-8 amps. at 14.1-14.5 volts at 2400 rpm.	16	Clockwise	Bronze Bushing	Ball Bearing
1105102	DR	12	Two Brush Shunt	1.54-1.67 amps. at 12 volts	17 amps. at 14.0 volts at 1400 rpm.	Controlled by current regulator	16	Clockwise	Bronze Bushing	Ball Bearing

* Third Brush Spring Tension - 19 ounces. ** Third Brush Lifted.

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Regulator Model Number	Make	Type	Ground	CUTOUT RELAY				VOLTAGE REGULATOR			CURRENT REGULATOR		
				Air Gap	Point Opening	Closing Voltage	Adjust To	Air Gap	Setting Range	Adjust To	Air Gap	Setting Range	Adjust To
1119152	D.R.	Three unit regulator	P	.020	.020	11.8 - 13.5	12.8	.075	13.8 - 14.8	14.3	.075	15.5 - 18.5	17.0

Regulator Model Number	Make	Type	Ground	CUTOUT RELAY				STEP-VOLTAGE CONTROL						
				Air Gap	Point Opening	Closing Voltage	Adjust To	Air Gap	Point Opening	Contact Spring Tension	Arma-ture Travel	Opening Range	Adjust To	Closing Range
5838	D.R.	Two unit regulator	P	.015	.020	12.5-14.0	13.3	.030	.010	8 oz.	.030	14.0-15.5	14.7	12.5-14.0

Regulator Model Number	Make	Type	Ground	CUTOUT RELAY				CURRENT-VOLTAGE REGULATOR		
				Air Gap	Point Opening	Closing Voltage	Adjust To	Air Gap	Opening Range	Adjust To
1118306	D.R.	Two unit regulator	P	.020	.020	11.8 - 14.0	12.8	.075	13.6 - 14.5	14.0
1118779 or 1118381	D.R.	Two unit regulator	P	.020	.020	11.8 - 14.0	12.8	.075	13.6 - 14.5	14.0