1835
Uni-Loader

Service Manual

9-68700

MidWestTech | Case 1835 Uni Loader Service Manual | Publication 9-68700

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188 DIESEL ENGINES

General

Type	Case Open Chamber, 4 Cylinder, 4 Stroke Cycle, Valve-in-Head
Firing Order	1-3-4-2
Bore	3-13/16 Inches (96.8 mm)
Stroke	4-1/8 Inches (104.8 mm)
Piston Displacement	188 Cubic Inches (3 081 cm^3)
Compression Ratio	17 to 1
No Load Governed Speed	2250 RPM
Rated Engine Speed	2100 RPM
Engine Idling Speed	800 to 650 RPM
Valve Tappet Clearance (Exhaust)	(Cold) 0.014 Inch (0.356 mm)
(Intake)	(Cold) 0.012 Inch (0.305 mm)

Piston and Connecting Rods

Rings per Piston	3
Number of Compression Rings	2
Number of Oil Rings	1
Type Pins	Full Floating Type
Type Bearing	Replaceable Precision, Steel Back, Copper-Lead Alloy Liners

Main Bearings

Number of Bearings	5
Type Bearings	Replaceable Precision, Steel Back, Copper-Lead Alloy Liners

Engine Lubricating System

Crankcase Capacity	6 Quarts (5.7 litres)
With Filter Change	7 Quarts (6.7 litres)
Oil Pressure	50 to 70 PSI (345 to 483 kPa)(3.45 to 4.83 bar) with Engine Warm and Operating at Rated Engine Speed
Type System	Pressure and Spray Circulation
Oil Pump	Gear Type
Oil Filter	Full Flow Spin on Type

Fuel System

Fuel Injection Pump	Roosa-Master
Pump Timing	4 Degrees Before Top Center
Fuel Injectors	Pencil Type Opening Pressure 3200 PSI (22 063 kPa)
Fuel Transfer Pump	Vane Type, Integral Part of Injection Pump
Governor	Variable Speed, Fly-Weight Centrifugal Type, Integral Part of Injection Pump
1st Stage Fuel Filter	Spin on Type
2nd Stage Fuel Filter	Spin on Type

NOTE: The CASE CORPORATION reserves the right to make improvements in design or changes in specifications at any time without incurring any obligation to install them on units previously sold.

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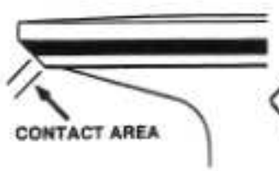
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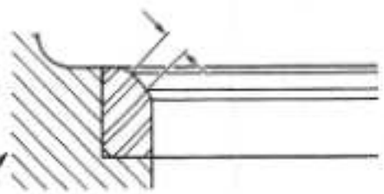
DIAGNOSIS OF DIFFERENT DYE PATTERNS

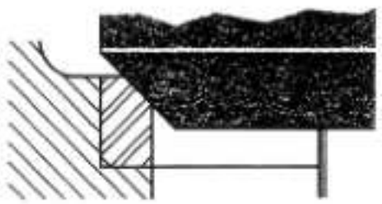
45° Exhaust Valves

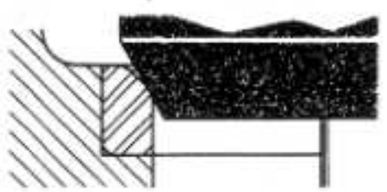
SEAT CONTACT AREA ON THE VALVE TOO LOW

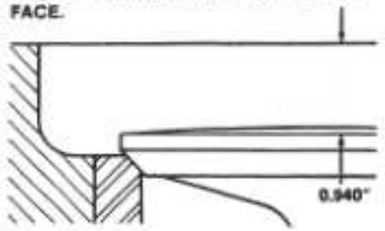


IF THE VALVE CONTACT AREA ON THE SEAT LOOKS LIKE THIS (A SEAT THAT HAS BEEN GROUND BEFORE) → USE A 45 DEGREE STONE TO LIFT AND TO MAKE WIDER, THE CONTACT AREA. → USE A 60 DEGREE STONE TO NARROW THE LOWER CONTACT AREA, INCREASED BY THE 45 DEGREE STONE. → CHECK THAT THE VALVE HEAD IS NOT RECESSED MORE THAN 0.940" (23.876 MM) BELOW THE CYLINDER HEAD SURFACE. → IF THE VALVE HEAD IS RECESSED MORE THAN 0.940" (23.876 MM), REPLACE THE VALVE AND VALVE SEAT.

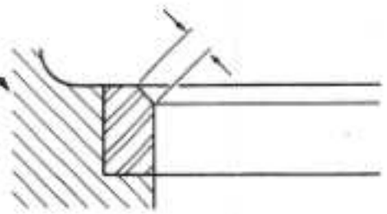


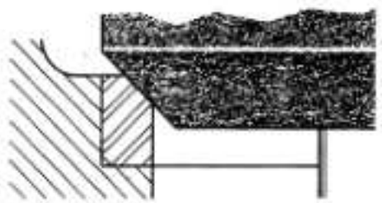


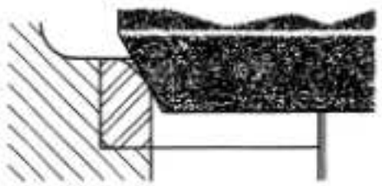


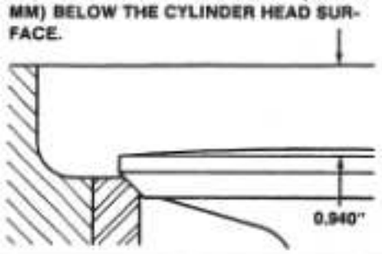


IF THE CONTACT AREA ON THE SEAT LOOKS LIKE THIS → USE A 45 DEGREE STONE TO LIFT THE CONTACT AREA. → USE A 60 DEGREE STONE TO LIFT AND NARROW THE LOWER CONTACT AREA. → CHECK THAT THE VALVE HEAD IS NOT RECESSED MORE THAN 0.940" (23.876 MM) BELOW THE CYLINDER HEAD SURFACE. → IF THE VALVE HEAD IS RECESSED MORE THAN 0.940" (23.876 MM), REPLACE THE VALVE AND VALVE SEAT.

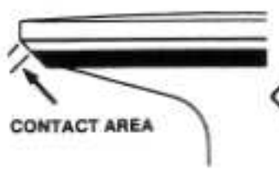




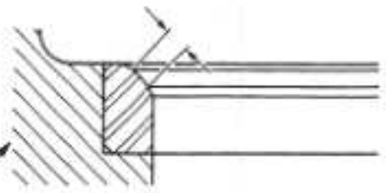


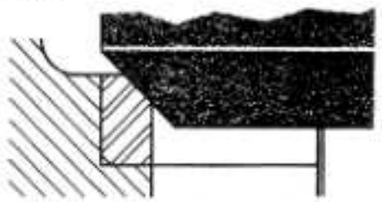


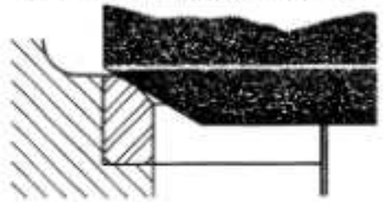
SEAT CONTACT AREA ON THE VALVE TOO HIGH

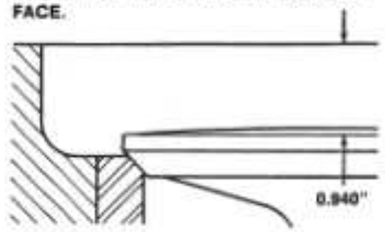


IF THE VALVE CONTACT AREA ON THE SEAT LOOKS LIKE THIS (A SEAT THAT HAS BEEN GROUND BEFORE) → USE A 45 DEGREE STONE TO LOWER AND TO MAKE WIDER, THE CONTACT AREA. → USE A 30 DEGREE STONE TO NARROW THE UPPER CONTACT AREA INCREASED BY THE 45 DEGREE STONE. → CHECK THAT THE VALVE HEAD IS NOT RECESSED MORE THAN 0.940" (23.876 MM) BELOW THE CYLINDER HEAD SURFACE. → IF THE VALVE HEAD IS RECESSED MORE THAN 0.940" (23.876 MM), REPLACE THE VALVE AND VALVE SEAT.

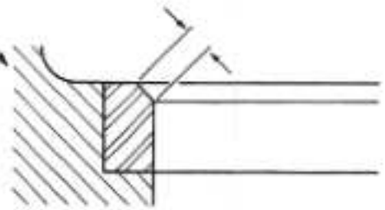








IF THE VALVE CONTACT AREA ON THE SEAT LOOKS LIKE THIS → THE VALVE AND THE VALVE SEAT MUST BE REPLACED BECAUSE MORE GRINDING WILL NOT CHANGE THE LOWER CONTACT POINT.



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