# 480 SERIES B
# Tractor

## Service Manual

9-72255

MidWestTech | Case 480B Tractor Service Manual | Publication 9-72256

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# Engine Block (Continued)

| | | Maximum Limit Including Wear |
|---|---|---|
| **PISTON PIN** | | |
| Type | Full Floating | |
| O.D. of pin (188D) | 1.2497 to 1.2498 | |
| (188G, 159G) | .9991 to .9992 | |
| (148G) | .8592 to .8593 | |
| Fit in piston (188D) | .0002 to .0006 | |
| (188G, 159G) | .0000 to .0003 | |
| (148G) | .0000 to .0002 | |
| Fit in rod bushing (188D) | .0002 to .0006 | |
| (188G,159G,148G) | .0003 to .0006 | |
| **CONNECTING ROD** | | |
| Bushing | Replaceable Bronze | |
| Bushing I.D. installed (reamed to size) | | |
| (188G,159G) | .9995 to .9997 | .002 |
| (188D) | 1.2502 to 1.2504 | .002 |
| (148G) | .8596 to .8598 | .002 |
| Bushing out-of-round | | .0015 |
| Bearing Liners | Replaceable | |
| Bearing liner width | 1.120 to 1.130 | |
| Rod width at crank end | 1.3035 to 1.3055 | |
| Journal I.D. without bearing liners | 2.1870 to 2.1875 | |
| Bearing oil clearance | .0010 to .0035 | .006 |
| Undersize bearings for service | .002,.010,.020,.030 | |
| Side clearance | .005 to .011 | |
| Cap bolts | Self locking type | |
| **CRANKSHAFT** | | |
| Type | Balanced | |
| Main bearing liners | Replaceable | |
| End play, center main bearing cap | .001 to .006 | .012 |
| Center main bearing thrust surface thickness | | .1025 to .1045 |
| Connecting rod journal std. O.D. | 2.0605 to 2.0615 | |
| Grind to .010" O.D. undersize | 2.0505 to 2.0515 | |
| .020" O.D. undersize | 2.0405 to 2.0415 | |
| .030" O.D. undersize | 2.0305 to 2.0315 | |


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# Engine Block (Continued)

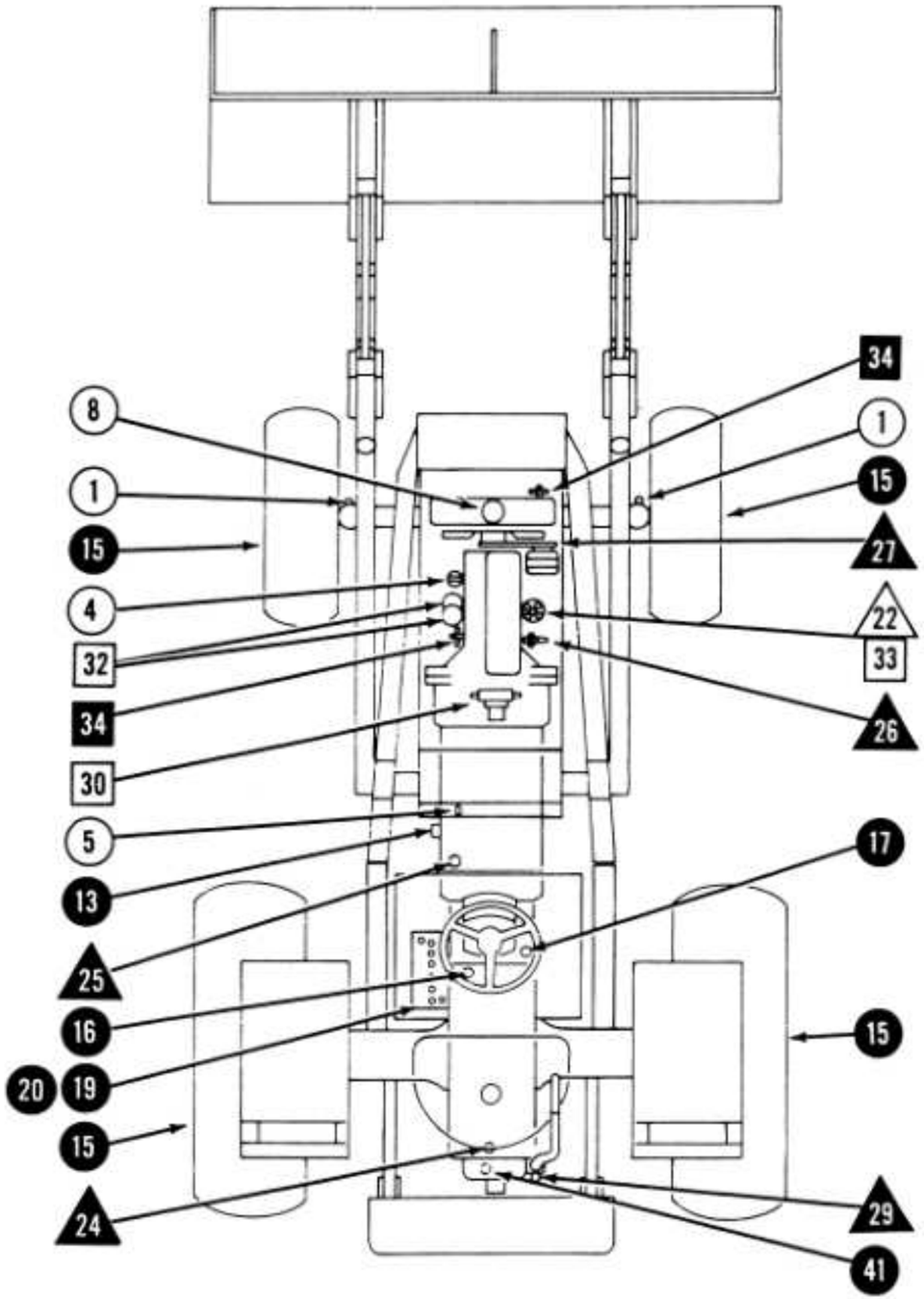
| | Maximum Limit Including Wear |
|---|---|
| **CRANKSHAFT (Continued)** | |
| Journals out-of-round | .001 |
| Main bearing liner width 1st, (188D, 188G) | 1.276 to 1.286 |
| Main bearing liner width 1st, (159G, 148G) | 1.870 to 1.880 |
| Main bearing liner width 3rd (188D) | 1.371 to 1.373 |
| Main bearing liner width 2nd (188G) | 1.371 to 1.373 |
| Main bearing liner width 2nd and 4th (188D) | .950 to 1.000 |
| Main bearing liner width 5th (188D), (188G 3rd.) | 1.557 to 1.567 |
| Undersize main bearing liners for service | .002,.010,.020,.030 |
| Main bearing oil clearance | .0012 to .0042 |
| Main bearing journal std. O.D. (188G, 188D) | 2.8730 to 2.8740 |
| (159G,148G) | 2.6230 to 2.6240 |
| Grind to: | |
| .010" O.D. undersize, (188G, 188D) | 2.8630 to 2.8640 |
| .020" O.D. undersize, (188G, 188D) | 2.8530 to 2.8540 |
| .030" O.D. undersize, (188G, 188D) | 2.8430 to 2.8440 |
| .010" O.D. undersize, (159G, 148G) | 2.6130 to 2.6140 |
| .020" O.D. undersize, (159G, 148G) | 2.6030 to 2.6040 |
| .030" O.D. undersize, (159G, 148G) | 2.5930 to 2.5940 |
| Main journal bore I.D. w/o liners (188D, 188G) | 3.066 to 3.067 |
| (159G,148G) | 2.816 to 2.817 |
| Main journal width between cheeks: | |
| 2nd (159G, 148G) | 1.499 to 1.502 |
| 2nd and 4th (188D) | 1.185 to 1.189 |
| 2nd (188G) | 1.3770 to 1.3740 |
| 3rd (188D) | 1.3740 to 1.3770 |
| 3rd (159G, 148G, 188G) | 1.745 to 1.755 |
| 5th (188D) | 1.745 to 1.755 |
| Connecting rod journal width between cheeks | 1.3105 to 1.3145 |
| **CAMSHAFT** | |
| Type | Parabolic |
| Bushings (188D) | 5, Replaceable |
| Bushings (188G) | 4, Replaceable |
| Bushings (159G, 148G) | 3, Replaceable |
| Oil Clearance | .002 to .005 ..... .007 |


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# Engine Block (Continued)

| | | Maximum Limit Including Wear |
|---|---|---|
| **CAMSHAFT (Continued)** | | |
| Bushing lubrication: | | |
| Front bushing | Pressure lubricated from oil pump. | |
| Intermediate bushing | Gravity flow lubricated | |
| Rear bushing (188D Only) | Pressure lubricated with rear oil metering. | |
| I.D. of bushing installed | 1.752 to .1753 | |
| Bushing width: | | |
| 1st (front) (159G,148G) | 1.307 to 1.317 | |
| 1st (front) (188D, 188G) | 1.213 to 1.223 | |
| 2nd (159G,148G) | .713 to .723 | |
| 2nd, 3rd & 4th (188D) | .490 to .500 | |
| 2nd, & 3rd. (188G) | .490 to .500 | |
| 3rd (rear) (148G, 159G) | 1.177 to 1.197 | |
| 4th (rear) (188G) | 1.213 to 1.223 | |
| 5th (rear) (188D) | 1.213 to 1.223 | |
| O.D. of each bearing surface | 1.749 to 1.750 | .004 |
| Thrust plate thickness | .149 to .147 | |
| Camshaft end play | Taken up by thrust plate | |
| Camshaft end clearance | .003 to .007 | |
| **VALVE PUSH ROD LIFTERS** | | |
| Type | Mushroom | |
| Body O.D. std. | .5605 to .5610 | |
| I.D. of block bore, std. | .5625 to .5635 | .0015 |
| **GEAR TRAIN** | | |
| Backlash: | | |
| Crankshaft gear to camshaft gear | .0002 to .006 | |
| Camshaft gear to idler gear (Diesel) | .0004 to .006 | |
| Idler gear to fuel pump gear (Diesel) | .0005 to .007 | |
| Crankshaft gear to oil pump gear | .002 to .008 | |
| Crankshaft gear to fuel pump gear (Diesel) | Maximum .019 | |

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| REF. NO. | SERVICE POINTS | NO. OF POINTS | GREASE | DRAIN | CHECK | CLEAN | CHANGE OIL (Few Drops) | FREQUENCY |
|---|---|---|---|---|---|---|---|---|
| 1 | King Pins | 2 | ▒ | | | | | ○ 10 HOURS OR DAILY |
| 2 | Front Axle Pivot | 1 | ▒ | | | | | |
| 3 | Radius Rod Pivot | 1 | ▒ | | | | | |
| 4 | Engine Oil Dipstick & Filler | 1 | | | ▒ | | | |
| 5 | Air Cleaner Restriction Indicator | 1 | | | ▒ | | | |
| 6 | Fuel Tank Water Trap (Diesel) | 1 | | ▒ | | | | |
| 7 | Fuel Tank Water Trap (Spark Ignition) | 1 | | | ▒ | | | |
| 8 | Radiator Coolant Level | 1 | | | ▒ | | | |
| 9 | Brake Pedals | 2 | ▒ | | | | | ● 50 HOURS OR WEEKLY |
| 10 | Clutch Pedal | 1 | ▒ | | | | | |
| 11 | Brake Rod Bellcrank | 2 | ▒ | | | | | |
| 12 | Brake Cross Shaft | 3 | ▒ | | | | | |
| 13 | Clutch Pivot Shaft | 1 | ▒ | | | | | |
| 14 | Rear Axle Outer Bearings | 2 | ▒ | | | | | |
| 15 | Tire Pressure | 4 | | | ▒ | | | |
| 16 | Transmission Dipstick | 1 | | | ▒ | | | |
| 17 | Torque Tube Dipstick | 1 | | | ▒ | | | |
| 18 | Steering Reservoir Dipstick | 1 | | | ▒ | | | |
| 19 | Battery Level (Spark Ign.) | 1 | | | ▒ | | | |
| 20 | Battery Level (Diesel) | 2 | | | ▒ | | | |
| 21 | Engine Oil Drain | 1 | | ▒ | | | ▒ | △ 100 HOURS |
| 22 | Distributor Tach. Drive (Spark Ign.) | 1 | ▒ | | | | | |
| 23 | Engine Oil Filter | 1 | | ▒ | | | ▒ | ▲ 200 HOURS |
| 24 | Transmission Breather | 1 | | | | ▒ | | |
| 25 | Torque Tube Breather | 1 | | | | ▒ | | |
| 26 | Spark Plugs (Spark Ign.) | 4 | | | ▒ | ▒ | ▒ | |
| 27 | Fan Belt | 1 | | | ▒ | | | |
| 28 | Fuel Strainer Screen | 1 | | ▒ | ▒ | ▒ | | |
| 29 | PTO Lever | 1 | ▒ | | | | | |
| 30 | Clutch Throwout Bearing | 1 | ▒ | | | | | □ 500 HOURS |
| 31 | Front Wheel Bearings | 2 | ▒ | | ▒ | ▒ | ▒ | |
| 32 | Fuel Filters (Diesel) | 2 | | ▒ | | ▒ | ▒ | |
| 33 | Distributor Points | 1 | | | ▒ | | ▒ | |
| 34 | Cooling System | 2 | | ▒ | | | ▒ | ■ 1000 HOURS OR YEARLY |
| 35 | Air Cleaner | 1 | | | | ▒ | ▒ | |
| 36 | Air Cleaner Pre-Screener | 1 | | | | ▒ | | |
| 37 | Transmission Oil | 1 | | ▒ | | | ▒ | |
| 38 | Torque Tube-Hydraulic Oil | 1 | | ▒ | | | ▒ | |
| 39 | Power Steering Oil & Filter | 1 | | ▒ | | | ▒ | |
| 40 | Fuel Filter (Spark Ign.) | 1 | | ▒ | | | ▒ | |
| 41 | Independent PTO | 1 | | ▒ | | | ▒ | |

**NOTE:** For further service information, consult the applicable service manual section.

9-80911



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