# WSM

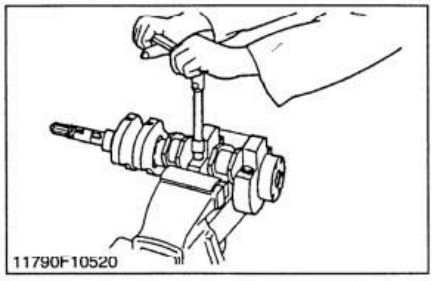
## WORKSHOP MANUAL

# F2260,F2560(E),F3060,F3560



Kubota

KiSC issued 12, 2017 A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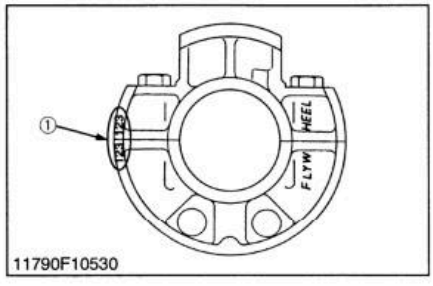

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**Main Bearing Case Assembly**

1. Remove the two main bearing case screws 1, and remove the main bearing case assembly, being careful with the thrust bearing and crankshaft bearing 2.
2. Remove the main bearing case assembly 1 and 2 as above. (D1005-EFM and D1105-EFM)
3. Remove the main bearing case assembly 1, 2 and 3 as above. (V1305-EFM and V1505-EFM)

**(When reassembling)**

- Clean the oil passage in the main bearing case.
- Apply clean engine oil on the bearings.
- Install the main bearing case assemblies in the original positions. Since diameters of main bearing case vary, install them in order of makings [**A**, **B** (D1005-EFM and D1105-EFM) / **A**, **B**, **C** (V1305-EFM and V1505-EFM)] from the gear case side.
- Match the alignment numbers (1) on the main bearing case.
- When installing the main bearing case 1, 2, and 3, face the mark **"FLYWHEEL"** to the flywheel.
- Install the thrust bearing with its oil groove facing outward.
- Confirm that the main bearing case moves smoothly after tightening the main bearing case screw 1 to the specified torque.

| | | |
|---|---|---|
| Tightening torque | Main bearing case screw 1 | 29.4 to 34.3 N·m<br>3.0 to 3.5 kgf·m<br>21.7 to 25.3 ft-lbs |

(1) Alignment Number

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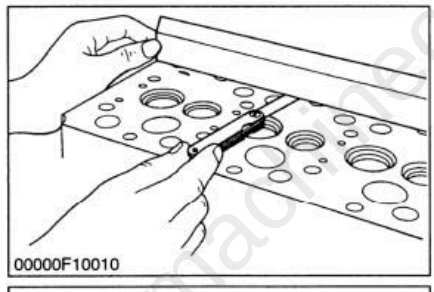
## SERVICING

### (1) Cylinder Head and Valves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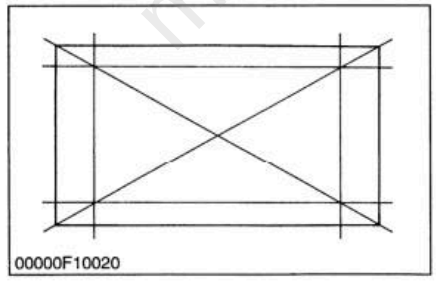
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**Cylinder Head Surface Flatness**

1. Clean the cylinder head surface.
2. Place a straightedge on the cylinder head's four sides and two diagonal as shown in the figure.
3. Measure the clearance with a feeler gauge.
4. If the measurement exceeds the allowable limit, correct it with a surface grinder.

■ **IMPORTANT**

- **Do not place the straightedge on the combustion chamber.**
- **Be sure to check the valve recessing after correcting.**

| | | |
|---|---|---|
| Cylinder head surface flatness | Allowable limit | 0.05 mm<br>0.0020 in. |

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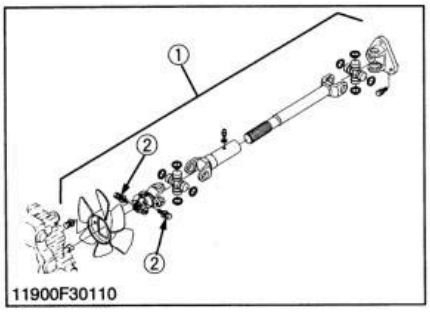

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## Drive Shaft

1. Unscrew the drive shaft mounting screws (2).
2. Remove the drive shaft (1) from HST pump shaft.

**(When reassembling)**

**■ NOTE**

- **Apply grease to the splines on the drive shaft and HST pump shaft.**

**■ IMPORTANT**

- **Be sure to tighten the drive shaft mounting screws (2) to the specified torque.**

| | | |
|---|---|---|
| Tightening torque | Drive shaft mounting screw | 27.5 to 29.4 N·m<br>2.8 to 3.0 kgf·m<br>20.3 to 21.6 ft-lbs |

(1) Drive Shaft (2) Drive Shaft Mounting Screw

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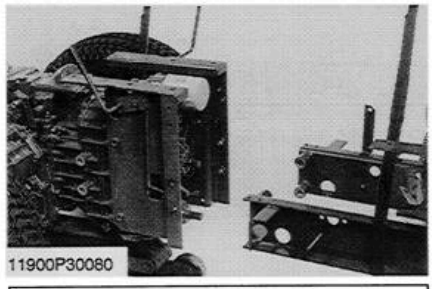
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## Separating Transmission and Front Axle

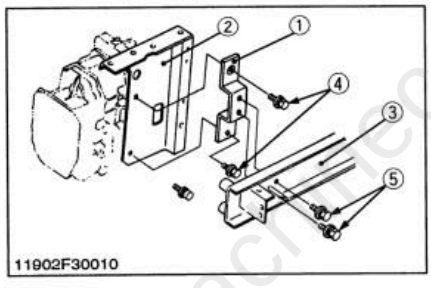
1. Support the rear end of the transmission and frame with a disassembly stand.
2. Unscrew the transmission mounting screws, and separate the transmission and front axle.

**(When reassembling)**

**■ NOTE**

- **Apply liquid lock (Three Bond 1324 or its equivalent) to the transmission mounting screws.**
- **Screw in the reamer screws, first.**
- **Mount the stay (1) between the side frame (2) and main frame (3).**

| | | |
|---|---|---|
| Tightening torque | Transmission mounting screw (M12) | 62.8 to 72.5 N·m<br>6.4 to 7.4 kgf·m<br>46.3 to 53.5 ft-lbs |
| | Stay mounting screw (4), (5) | 77.6 to 90.2 N·m<br>8.0 to 9.0 kgf·m<br>57.1 to 66.5 ft-lbs |



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(1) Stay (4) Stay Mounting Screw
(2) Side Frame (5) Screw
(3) Main Frame

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# SERVICING SPECIFICATIONS

| Item | | Factory Specification | Allowable Limit |
|---|---|---|---|
| Adjusting Screw Length | | Approx. 15.0 mm<br>Approx. 0.59 in. | 15 to 20 mm<br>0.59 to 0.79 in. |
| Check and High Relief Pressure | | 27.9 MPa<br>285 kgf/cm$^2$<br>4056 psi | – |
| Charge Pressure | | 400 to 600 kPa<br>4.1 to 6.1 kgf/cm$^2$<br>58 to 87 psi | – |
| Piston to Bore (HST) | Clearance | 0.02 mm<br>0.0008 in. | 0.04 mm<br>0.0016 in. |
| Piston Slipper (HST) | Thickness | 3.00 mm<br>0.118 in. | 2.90 mm<br>0.1142 in. |

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# TIGHTENING TORQUES

Tightening torques of screws, bolts and nuts on the table below are especially specified.
(For general use screws, bolts and nuts : See page G-9.)

| Item | N·m | kgf·m | ft-lbs |
|---|---|---|---|
| Oil strainer | 98.1 to 137.2 | 10.0 to 14.0 | 72.4 to 101.2 |
| ROPS mounting screw | 77.5 to 90.2 | 7.9 to 9.2 | 57.2 to 66.5 |
| Ø10 mm (0.394 in.) pipe mounting screw | 39.3 to 49.0 | 4.0 to 5.0 | 28.9 to 36.1 |
| Ø12 mm (0.472 in.) pipe mounting screw | 54.0 to 63.7 | 5.5 to 6.5 | 39.8 to 47.0 |
| Power steering hose 1 and 2 | 24.6 to 29.4 | 2.5 to 3.0 | 18.1 to 21.6 |
| Power steering hose P | 24.6 to 29.4 | 2.5 to 3.0 | 18.1 to 21.6 |
| Drive shaft mounting screw | 27.5 to 29.4 | 2.8 to 3.0 | 20.3 to 21.6 |
| Transmission mounting screw (M12) | 62.8 to 72.5 | 6.4 to 7.4 | 46.3 to 53.5 |
| Frame stay mounting screw | 77.6 to 90.2 | 8.0 to 9.2 | 57.1 to 66.5 |
| Side frame mounting screw and nut | 62.8 to 72.5 | 6.4 to 7.4 | 46.3 to 53.5 |
| PTO pipe mounting screw | 54.0 to 63.7 | 5.5 to 6.5 | 39.8 to 47.0 |
| HST mounting screw (M8) | 23.6 to 27.4 | 2.4 to 2.8 | 17.4 to 20.2 |
| HST mounting screw (M10) | 39.3 to 44.1 | 4.0 to 4.5 | 29.0 to 32.5 |
| Hex. socket head screw | 49.0 to 58.8 | 5.0 to 6.0 | 36.2 to 43.4 |
| Check and high pressure relief valve plug | 58.8 to 107.9 | 6.0 to 11.0 | 43.4 to 79.6 |

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## HYDRAULIC CYLINDER

| Item | | Factory Specification | Allowable Limit |
|---|---|---|---|
| Hydraulic Cylinder | I.D. | 70.05 to 70.10 mm<br>2.7579 to 2.7598 in. | 70.15 mm<br>2.7618 in. |
| Hydraulic Arm Shaft to Bushing | Clearance<br>(Left and Right) | 0.020 to 0.110 mm<br>0.0008 to 0.0043 in. | 0.30 mm<br>0.0118 in. |
| Hydraulic Arm Shaft | O.D. (Left) | 37.925 to 37.950 mm<br>1.4931 to 1.4941 in. | – |
| | O.D. (Right) | 33.925 to 33.950 mm<br>1.3356 to 1.3366 in. | – |
| Bushing | I.D. (Left) | 37.970 to 38.035 mm<br>1.4949 to 1.4974 in. | – |
| | I.D. (Right) | 33.970 to 34.035 mm<br>1.3374 to 1.3400 in. | – |

## PTO CLUTCH

| | | | |
|---|---|---|---|
| PTO Charge Pressure<br>Condition<br>• Engine Speed<br>Maximum<br>• Oil Temperature<br>50 °C<br>122 °F | Setting Pressure | 785 to 1078 kPa<br>8.0 to 11.0 kgf/cm2<br>114 to 156 psi | – |
| PTO Brake Plate | Thickness | 4.35 to 4.65 mm<br>0.1713 to 0.1830 in. | 4.25 mm<br>0.1673 in. |
| PTO Brake Disc | Thickness | 3.65 to 3.95 mm<br>0.1437 to 0.1555 in. | 3.30 mm<br>0.1299 in. |
| Pressure Plate | Thickness | 1.95 to 2.05 mm<br>0.0768 to 0.0807 in. | 1.80 mm<br>0.0709 in. |
| Clutch Disc | Thickness | 1.90 to 2.10 mm<br>0.7480 to 0.0827 in. | 1.60 mm<br>0.0630 in. |
| Steel Plate | Thickness | 0.95 to 1.05 mm<br>0.0374 to 0.0413 in. | 0.80 mm<br>0.0315 in. |

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# TIGHTENING TORQUES

Tightening torques of screws, bolts and nuts on the table below are especially specified.
(For general use screws, bolts and nuts : See page G-9.)

| Item | N·m | kgf·m | ft-lbs |
|---|---|---|---|
| Fuel cut off solenoid mounting screw | 9.80 to 11.2 | 1.00 to 1.15 | 7.24 to 8.32 |
| Flow priority valve mounting screw | 17.7 to 20.6 | 1.8 to 2.1 | 13.0 to 15.2 |
| Delivery hose mounting nut | 24.6 to 29.4 | 2.5 to 3.0 | 14.5 to 21.6 |
| Hydraulic pump mounting screw and nut | 23.6 to 27.4 | 2.4 to 2.8 | 17.4 to 20.2 |
| Cover mounting screw | 39.2 to 44.1 | 4.0 to 4.5 | 28.9 to 32.5 |
| Hydraulic cylinder assembly mounting screw and nut | 39.2 to 44.1 | 4.0 to 4.5 | 28.9 to 32.5 |
| Control valve mounting screw | 23.6 to 27.4 | 2.4 to 2.8 | 17.4 to 20.2 |
| Relief valve plug | 49.0 to 68.6 | 5.0 to 7.0 | 36.2 to 50.6 |

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# Full Version Available

Kubota F3560 Front Mower Workshop Manual

This is a short preview. The complete manual contains all chapters, wiring diagrams, torque specifications and full service procedures.