SERVICE MANUAL

790CP

Pick-up Header

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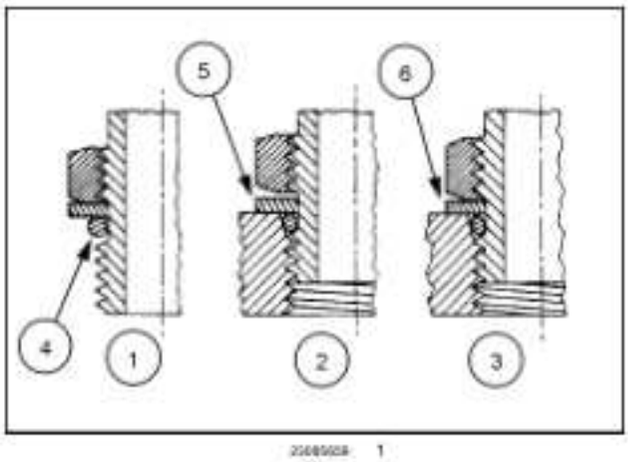
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Torque - Standard torque data for hydraulics

INSTALLATION OF ADJUSTABLE FITTINGS IN STRAIGHT THREAD O RING BOSSES



1. Lubricate the O-ring by coating it with a light oil or petroleum. Install the O-ring in the groove adjacent to the metal backup washer which is assembled at the extreme end of the groove **(4)**.
2. Install the fitting into the SAE straight thread boss until the metal backup washer contacts the face of the boss **(5)**.

   NOTE: *Do not over tighten and distort the metal backup washer.*
3. Position the fitting by turning out (counterclockwise) up to a maximum of one turn. Holding the pad of the fitting with a wrench, tighten the locknut and washer against the face of the boss **(6)**.

STANDARD TORQUE DATA FOR HYDRAULIC TUBES AND FITTINGS

TUBE NUTS FOR 37° FLARED FITTINGS				O-RING BOSS PLUGS ADJUSTABLE FITTING LOCKNUTS, SWIVEL JIC- 37° SEATS
SIZE	TUBING OD	THREAD SIZE	TORQUE	TORQUE
4	**6.4 mm (1/4 in)**	7/16-20	**12 - 16 N·m (9 - 12 lb ft)**	**8 - 14 N·m (6 - 10 lb ft)**
5	**7.9 mm (5/16 in)**	1/2-20	**16 - 20 N·m (12 - 15 lb ft)**	**14 - 20 N·m (10 - 15 lb ft)**
6	**9.5 mm (3/8 in)**	9/16-18	**29 - 33 N·m (21 - 24 lb ft)**	**20 - 27 N·m (15 - 20 lb ft)**
8	**12.7 mm (1/2 in)**	3/4-16	**47 - 54 N·m (35 - 40 lb ft)**	**34 - 41 N·m (25 - 30 lb ft)**
10	**15.9 mm (5/8 in)**	7/8-14	**72 - 79 N·m (53 - 58 lb ft)**	**47 - 54 N·m (35 - 40 lb ft)**
12	**19.1 mm (3/4 in)**	1-1/16-12	**104 - 111 N·m (77 - 82 lb ft)**	**81 - 95 N·m (60 - 70 lb ft)**
14	**22.2 mm (7/8 in)**	1-3/16-12	**122 - 136 N·m (90 - 100 lb ft)**	**95 - 109 N·m (70 - 80 lb ft)**
16	**25.4 mm (1 in)**	1-5/16-12	**149 - 163 N·m (110 - 120 lb ft)**	**108 - 122 N·m (80 - 90 lb ft)**
20	**31.8 mm (1-1/4 in)**	1-5/8-12	**190 - 204 N·m (140 - 150 lb ft)**	**129 - 158 N·m (95 - 115 lb ft)**
24	**38.1 mm (1-1/2 in)**	1-7/8-12	**217 - 237 N·m (160 - 175 lb ft)**	**163 - 190 N·m (120 - 140 lb ft)**
32	**50.8 mm (2 in)**	2-1/2-12	**305 - 325 N·m (225 - 240 lb ft)**	**339 - 407 N·m (250 - 300 lb ft)**

These torques are not recommended for tubes of **12.7 mm (1/2 in)** OD and larger with wall thickness of **0.889 mm (0.035 in)** or less. The torque is specified for **0.889 mm (0.035 in)** wall tubes on each application individually.

Before installing and torquing **37 °** flared fittings, clean the face of the flare and threads with a clean solvent or Loctite cleaner and apply hydraulic sealant **LOCTITE® 569** to the **37 °** flare and the threads.

Install fitting and torque to specified torque, loosen fitting and retorque to specifications.

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NOTE: *Use schematics on* ***Wiring harnesses - Electrical schematic sheet 02 (55.100).***

N°	Test Point	Expected Result	Other Result (Possible Cause)
1	**Condition** Inspect BPU solenoid 1 **L-77** and harness for damage. **Check** Visually check sensor for loose electrical connections, damaged mounting holes, missing hardware etc.	**Result** No visible damage. **Action** Go to test **2**	**Result** Solenoid or harness is damaged. **Action** Replace solenoid or repair harness.
2	**Condition** Disconnect connector **X032** from the combine. **Check** for voltage from the Feeder Harness side of connector **X032** pin 20 and ground.	**Result** **12 V** **Action** Go to test **3**	**Result** **0 V** **Action** There is a problem in the wiring of the combine. See combine service manual for more information.
3	**Condition** Disconnect connector **X522** from the BPU solenoid 1 **L-77**. **Check** for resistance between BPU solenoid 1, pins 1 and 2.	**Result** **8 Ω** **Action** Go to test **4**	**Result** **0 Ω**, or infinite. **Action** BPU solenoid 1 has failed. Replace the solenoid.
4	**Condition** Use **Electrical system - Testing General Wire Testing (55.000)** to **Check** wire condition between **X032** pin 20 and connector **X522** pin 1.	**Result** No wire problems. **Action** Go to test **5**	**Result** Wire problems are found. **Action** Locate and repair or replace broken wire 711 (Grey) / 713 (Orange) or adjacent wiring.
5	**Condition** Use **Electrical system - Testing General Wire Testing (55.000)** to **Check** wire condition between **X522** pin 2 and connector **X032** pin 30.	**Result** No wire problems. **Action** The fault may be intermittent. Visually inspect the relevant harnesses and connectors for damage, bent or dislocated pins, corroded terminals or broken wires. Verify that the connectors are fully installed. Flex the harnesses involved to reveal intermittent breaks or shorts in the wiring concerned. If no damage is found, continue operation.	**Result** Wire problems are found. **Action** Locate and repair or replace broken wire 1110/775 (Black) or adjacent wiring.

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N°	Test Point	Expected Result	Other Result (Possible Cause)
7	**Condition** Disconnect the combine connector **X032**. **Check** Use a multi-meter to check for continuity from the header side of the combine connector pin 13 to the header type module connector reference ground pin specified in the pinout table provided in **Header feeding sensor Header type module - Overview (55.421)**	**Result** Continuity is measured between the specified pin and the combine connector **X032** pin 13. **Action** Leave the combine connector disconnected and Go to test **8**	**Result** If there is no continuity between the specified pin and the combine connector **X032** pin 13, the reference ground wire is broken. **Action** Locate and repair the damage to the conductor, then retest the system for proper operation.
8	**Condition** Disconnect the combine connector **X032**. **Check** Use a multi-meter to check for continuity, at the Header type module connector **X434**, from the signal wire pin specified in the pinout table provided in **Header feeding sensor Header type module - Overview (55.421)** to chassis ground.	**Result** No continuity measured between the specified pin and chassis ground **Action** Leave the combine connector disconnected and Go to test **9**	**Result** If there is continuity between the specified pin and chassis ground, the signal wire is grounded. **Action** Locate and repair the damage to the conductor, then retest the system for proper operation.
9	**Condition** Disconnect the combine connector **X032**. **Check** Use a multi-meter to check for continuity from the header side of the combine connector **X032** pin 27 to the header type module connector **X434** signal wire pin specified in the pinout table provided in **Header feeding sensor Header type module - Overview (55.421)**	**Result** Continuity is measured between the specified pin and the combine connector pin 27. **Action** Leave the header type module **R-20** out of its connector **X434**, attach the combine connector **X032** to the header, place the combine Key switch in the ON position and Go to test **10**	**Result** If there is no continuity between the specified pin and the combine connector **X032** pin 27, the signal wire is broken. **Action** Locate and repair the damage to the conductor, then retest the system for proper operation.
10	**Condition** Attach the header to the combine and the turn the Key switch to the ON position. **Check** Use a multi-meter to check for **5.0 V**, at the Header type module **R-20** connector **X434**, from the reference power pin specified in the pinout table provided in **Header feeding sensor Header type module - Overview (55.421)** to chassis ground.	**Result** If **4.5 - 5.5 V** is measured between the specified pin and chassis ground, the header type module and configured wiring has all tested properly, the failure in the system is either intermittent or in the combine circuitry or control module. **Action** Refer to the appropriate combine service manual to locate and repair the fault condition.	**Result** Greater than **5.5 V** is measured between the specified pin and chassis ground, there is a short to high voltage in the reference power circuit. **Action** Place the combine Key switch in the OFF position, disconnect the header from the combine at the combine to header connector **X032**, remove the header type module **R-20** from its connector **X434** and Go to test **11**
11	**Condition** Combine to header connector **X032** disconnected and the header type module **R-20** removed from its connector **X434**. **Check** Use a multi-meter to measure the resistance between the header side of the combine to header connector **X032** pin 27 and all other populated pins in the combine to header connector on the header side.	**Result** Infinite resistance is measured from pin 27 to all other populated pins, the short to high voltage source in the reference power circuit is in the combine circuitry. **Action** Refer to the appropriate combine service manual to locate and repair the fault condition.	**Result** Less than infinite resistance is measured from pin 27 to one or more of the other populated pins, the short to high voltage source in the reference power circuit is on the header. **Action** Locate and repair the damage to the affected conductors, then retest the system for proper operation.

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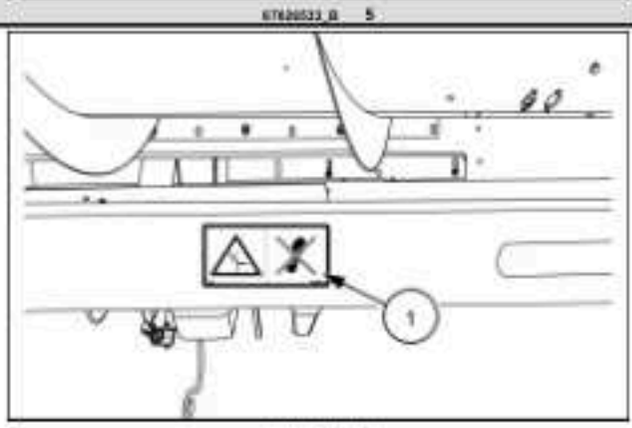
WARNING
Slippery surface.
Do not use this area as a step or platform.
Failure to comply could result in death or serious injury.

Quantity: 2
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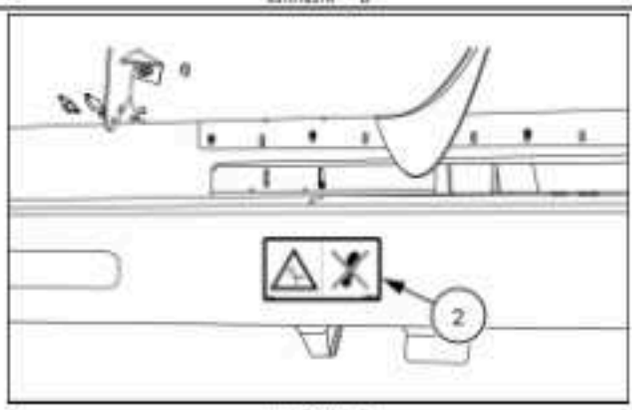
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(1) LH side of feeder opening on the top rail.



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(2) RH side of feeder opening on the top rail.



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