SHOP MANUAL

KOMATSU®

D80A,E,P-18
D85A,E,P-18

MACHINE MODEL	SERIAL NO.
D80A-18	25001 and up
D85A-18	25001 and up
D80E-18	25001 and up
D85E-18	25001 and up
D80P-18	2001 and up
D85P-18	2001 and up

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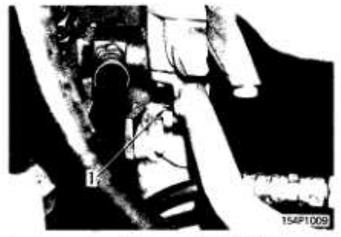
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LOCATION OF THE PRESSURE PLUG D85-18



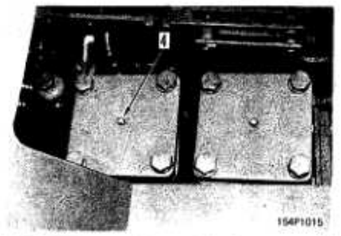
Torque converter regulator pressure (Fig. 1.2-A)



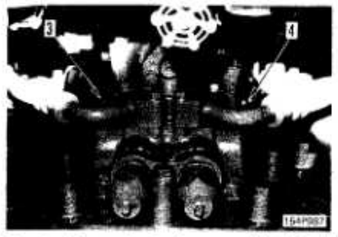
Torque converter relief pressure (Fig. 1.2-B)



To transmission reducing pressure TOROFLOW (Fig. 1.2-C)

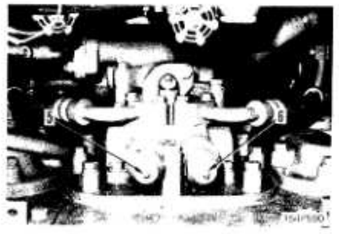


TOROFLOW transmission modulating pressure (Fig. 1.2-D)



Left and right steering clutch pressure (Fig. 1.2-G.H)

(3) Left (Fig. 1,2-H)
(4) Right (Fig. 1,2-G)



Left and right steering brake relief pressure (Fig. 1.2-I,J)

(5) Left (Fig. 1,2-J)
(6) Right (Fig. 1-I)

OIL PRESSURE MEASURING POINT D85-18

Pressure	Measuring		Measuring method	Set oil pressure (kg/cm²)	
	Plug size	Location		Engine full speed	Engine idle speed
Torque converter regulator pressure	PT 1/8	Fig.1,2-A	Fit oil pressure gauge (25 kg/cm²) with adapter and hose. Put gear shift lever in "N" position and start engine. Measure oil pressure at both idle and full speed. • Oil temperature during measurement: 70 to 80°C • Be sure to lock parking brake.	3~5	2~3
Torque converter relief pressure	PT 1/8	Fig.1,2-B	Fit oil pressure gauge (25 kg/cm²) with adapter and hose. Put gear shift lever in "N" position and start engine. Measure oil pressure at full speed. • Oil temperature during measurement: 70 to 80°C • Be sure to lock parking brake.	8.7~9	–
TOROFLOW transmission reducing pressure	PT 1/8	Fig.1,2-C	Fit oil pressure gauge (25 kg/cm²) with adapter and hose. Put gear shift lever in "N" position and start engine. Put gear shift lever in either forward or reverse position and measure oil pressure. • Note that machine will start moving when engine is set at full speed. • Oil temperature during measurement: 70 to 80°C	12.5	–
TOROFLOW transmission modulating pressure	PT 1/8	Fig.1,2-D	Fit oil pressure gauge (70 kg/cm²) with adapter and hose. Put gear shift lever in "N" position and start engine. Measure oil pressure at both idle and full speed. • Oil temperature during measurement: 70 to 80°C • Be sure to lock parking brake.	23~27	18~24
Left and right steering clutch pressure	PT 1/8	Fig.1,2-G.H	Fit oil pressure gauge 25 kg/cm²) with adapter and hose. Put gear shift lever in "N" position and start engine. Pull steering lever until clutch disengages, and measure oil pressure at both idle and full speed. • Oil temperature during measurement: 70 to 80°C • Be sure to lock parking brake.	12~17	9~13
Left and right steering brake relief pressure	PT 1/8	Fig.1,2-I,J	Fit oil pressure gauge (25 kg/cm²) with adapter and hose. Put gear shift lever in "N" position and start engine. Depress brake pedal and measure oil pressure at both idle and full speed. • Oil temperature during measurement: 70 to 80°C • Be sure to lock parking brake. • Within 2 kg/cm² difference left and right brakes.	15~20	15~20

STANDARD VALUES D85-18 (Serial No. 26401 ~)

Item		Condition		Standard value
Stroke	Fuel control valve	Center of lever knob	Idle ~ Full speed Full speed ~ Idle	110 ~ 150 mm
	Decelerator pedal		Full speed ~ Idle	30 ~ 40 mm
	Gear shift lever	Center of lever knob	Forward/reverse direction	38 ~ 50 mm
			Left/right direction (between F ⇔ R)	60 ~ 80 mm
	Steering lever	Engine idle	Until clutch disengages	81 ~ 101 mm
			Until brake operates	129 ~ 159 mm
	Brake pedal	Engine idle	Pedal pressure 15 kg	110 ~ 130 mm
			Until engine stops to torque converter stalls	
Operating force	Fuel control lever		Idling → Full speed	4 ~ 8 kg
			Full speed → Idling	8 ~ 12 kg
	Decelerator pedal		Full speed → Idling	5 ~ 10 kg
	Gear shift lever	Engine stop		2 ~ 5 kg
	Steering lever	Engine idle	Until clutch disengages	7 kg max.
			Until brake operates and machine turns	10 kg max.
	Brake pedal	Until engine stops or torque converter stalls on one brake		15 kg max.
Heat balance	Engine water temperature	TEST CONDITIONS 1. Specified amount of oil and water. 2. Excavate 30 ~ 40 mm and refill until oil heat balanced. 3. Wind velocity shall be no greater than 5 m/sec. Be careful of wind direction. 4. Stop test during very cloudy or wet weather. 5. Perform test with thermostat fully open. 6. Inspection standards shall be 40°C converted values. 7. Measurements shall be made at least three times every 30 minutes in the vicinity of heat balance.		Radiator inlet 100°C max.
	Engine oil temperature			Level gauge guide 120°C max.
	Torque converter oil temperature			Cooler inlet 120°C max.
	Steering case oil temperature			Level gauge guide 120°C max.
	Final drive case oil temperature			Level plug 100°C max.
Engine speed: Full				1950 ± 50 rpm
Engine speed: Slow				560 ± 50 rpm
Engine speed: When torque converter stalls		★ Torque converter oil temperature 70 ~ 80°C ★ Horizontal machine body		1540 ± 50 rpm
Machine speed	Forward 1st speed	★ Engine speed: Full ★ Road: Level (Slope: within 1%) ★ Work equipment: No load ★ Track shoe tension: Prescribed value ★ Measurement of time required to run 20 m after traveling the following distance: F1, R1: Over 15 m; F3, R3: Over 30 m F2, R2: Over 20 m		Within 20 sec.
	Forward 2nd speed			Within 11.1 sec.
	Forward 3rd speed			Within 6.4 sec.
	Reverse 1st speed			Within 16.8 sec.
	Reverse 2nd speed			Within 9.4 sec.
	Reverse 3rd speed			Within 5.5 sec.
Drawbar pull	Forward 1st speed	★ Engine speed: Full ★ Road condition: μ = 0.7 to 0.9 (Compacted level road) ★ Work equipment lever: Neutral ★ Torque converter oil temperature: 70 to 80°C		Shoe: Slip
	Forward 2nd speed			Torque convertar : Stall
	Forward 3rd speed			Torque convertar: Stall
Time lag when gear shifting transmission		★ Engine speed: Full ★ Torque converter oil temperature: 70 to 80°C ★ Time taken for track shoes to start to move after gear shift lever from neutral position to any other position.		0.2 to 0.8 sec.
Leakage inside torque converter		★ Stall torque converter, increase torque converter oil temperature up to 120°C and then decrease it down to 70°C at middle speed of engine. ★ Increase torque converter oil temperature up to 120°C by re-stalling torque converter and then idle engine at full speed and neutral for 5 minutes. ★ Stop engine suddenly, and drain all oil inside torque converter case within 5 minutes. Then, measure quantity of oil drained.		Within 10 ℓ

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