850, 880, 950, 990 David Brown Implematic Tractors

SERVICE MANUAL

9-38100

CASE IH AGRICULTURE

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Piston groove clearance should not exceed 0·010 in. (0·25 mm) when checked with a new ring.

Oversize valves should be fitted if the bore in the cylinder head is worn in excess of 0·006 in. (0·15 mm). For details of oversize reamers and seat cutter pilots see Service Tool Leaflet A28.

Piston Dimensions (new)

Nominal diameter	3⅜ in	92·075 mm
Piston skirt diameter (at right-angles to gudgeon pin bore)	3·619 — 3·618 in	91·93 — 91·91 mm
Piston weight variation (maximum in one set)	½ oz	14 gm
Piston ring side clearance	0·002 — 0·0035 in	0·050 — 0·088 mm
Piston ring gap	0·010 — 0·015 in	0·254 — 0·374 mm
Gudgeon pin diameter	1·2503 — 1·250 in	31·757 — 31·750 mm

(Push-fit in connecting rod bush, light-drive fit in piston)

Sleeve Dimensions (new)

Bore	3·6255 — 3·6250 in	92·088 — 92·076 mm
Taper (maximum)	0·0005 in	0·0127 mm
Ovality (maximum)	0·0005 in	0·0127 mm
Protrusion (excluding ridge)	0·002 — 0·005 in	0·0508 — 0·127 mm

Valve Clearance (set cold)

Inlet	to AD4/47A 60389	0·015 in	0·35 mm
Exhaust	and AD4/47B 40724	0·012 in	0·30 mm
Inlet	from AD4/47A 60390	0·010 in	0·25 mm
Exhaust	and AD4/47B 40725	0·007 in	0·18 mm

Valve Springs (inlet and exhaust)

Free length	1·970 in	5·0 cm
Length at 40 lb load	1·530 in	
Length at 80 lb load	1·102 in	
Length at 15 kg load		4·08 cm
Length at 30 kg load		3·15 cm

Valve Stem Diameters (inlet and exhaust)

Standard	0·3732 — 0·3722 in	9·479 — 9·454 mm
Oversize 0·010 in. (0·007 mm)	0·3832 — 0·3822 in	9·733 — 9·708 mm
Oversize 0·020 in. (0·014 mm)	0·3932 — 0·3922 in	9·987 — 9·962 mm
Valve seat angle	45°	45°
Valve guide bore	0·375 — 0·374 in	9·525 — 9·499 mm
Valve tappet diameter	0·624 — 0·623 in	15·850 — 15·824 mm

Valve Timing

Inlet opens	8° before top dead centre
Inlet closes	38° after bottom dead centre
Exhaust opens	36° before bottom dead centre
Exhaust closes	10° after top dead centre

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RAM CYLINDER AND RAMSHAFT

To remove the Ramshaft

Remove the cover from the right-hand ramshaft bracket and remove the Nyloc Nut and distance piece from the end of the hold mechanism linkage rod. Remove the four bolts attaching the right-hand housing to the axle case, then remove the six ram cylinder cover bolts; the two centre cover bolts pass through the axle case and are fitted with nuts adjacent to the ram cylinder union cover plate.

Whilst supporting the weight of the ramshaft, remove the ram cylinder cover then remove the ramshaft complete with right-hand bracket.

To remove the right-hand bracket from the ramshaft remove the two countersunk screws, securing the override control in the housing, then withdraw the control assembly out of the housing (Fig. 25). Remove the circlip from the ramshaft extension and slide the housing off the shaft.

After removing the ramshaft, remove the cover plate from the front of the axle casing then disconnect the oil pipe banjo union and push the ram cylinder out of the axle case. If the tractor is fitted with a three-way valve, it will be necessary to remove the union assembly from the front end of the ram cylinder (see page 27) before removing the ram cylinder.

To re-assemble, replace the components in the reverse order of removal, ensuring that the ramshaft bearing seals are positioned on the ramshaft before the ramshaft is placed in position.

To facilitate guiding the hold mechanism on to the linkage rod, the inner distance piece and rod are drilled to enable the compression spring on the rod to be held in the compressed position, by temporarily fitting a split pin through the distance piece and rod.

The ram cylinder cover has a faced joint and requires no gasket, the faces must, however, be clean and smeared with jointing compound. After attaching the housings to the axle case, remove the split pin from the hold mechanism rod and fit the outer distance piece and Nyloc Nut. Adjust the nut in accordance with the instructions on page 12, then replace the cover.

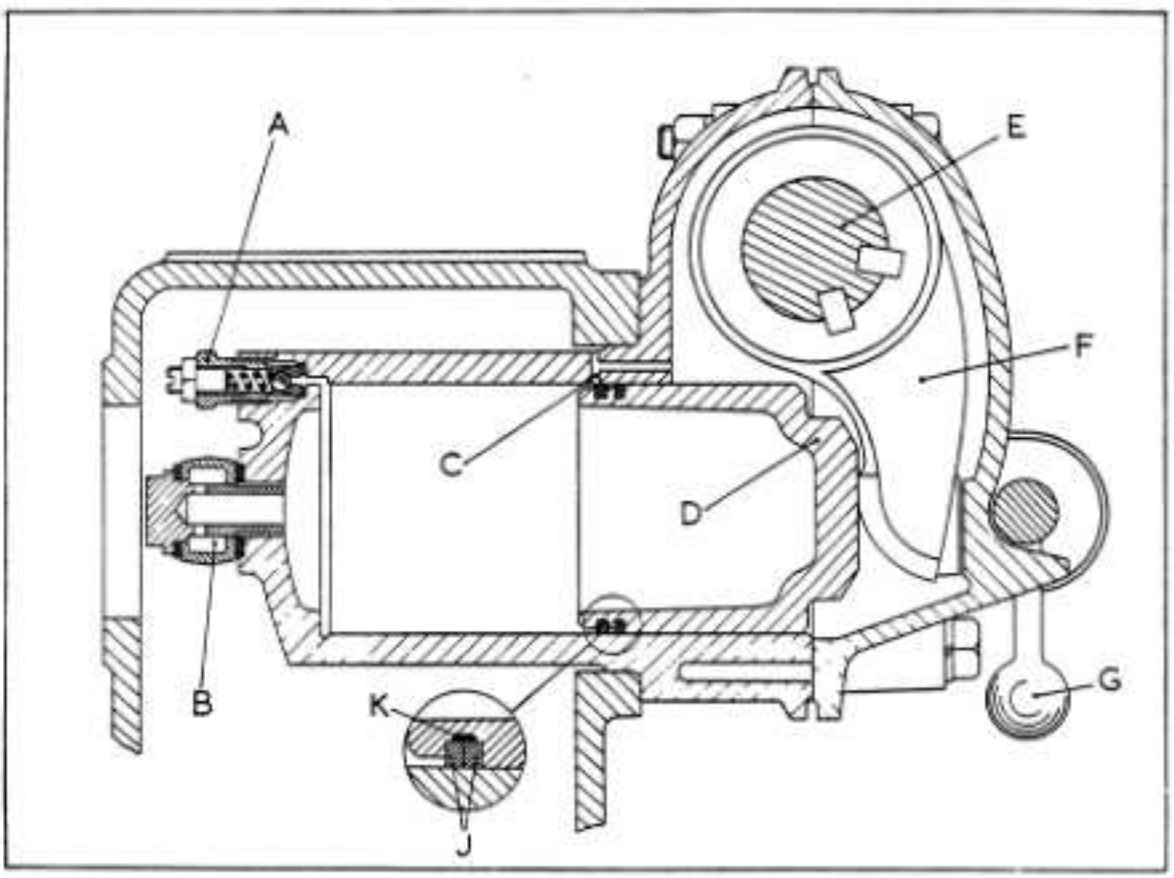


Fig. 22. SECTION THROUGH RAM CYLINDER (Early series tractors)

A. Pressure Relief Valve
B. Inlet Union
C. Spill Port
D. Ram Piston
E. Ramshaft
F. Ramshaft Arm
G. Lift Locking Bolt
J. Piston Rings
K. Rubber Seal

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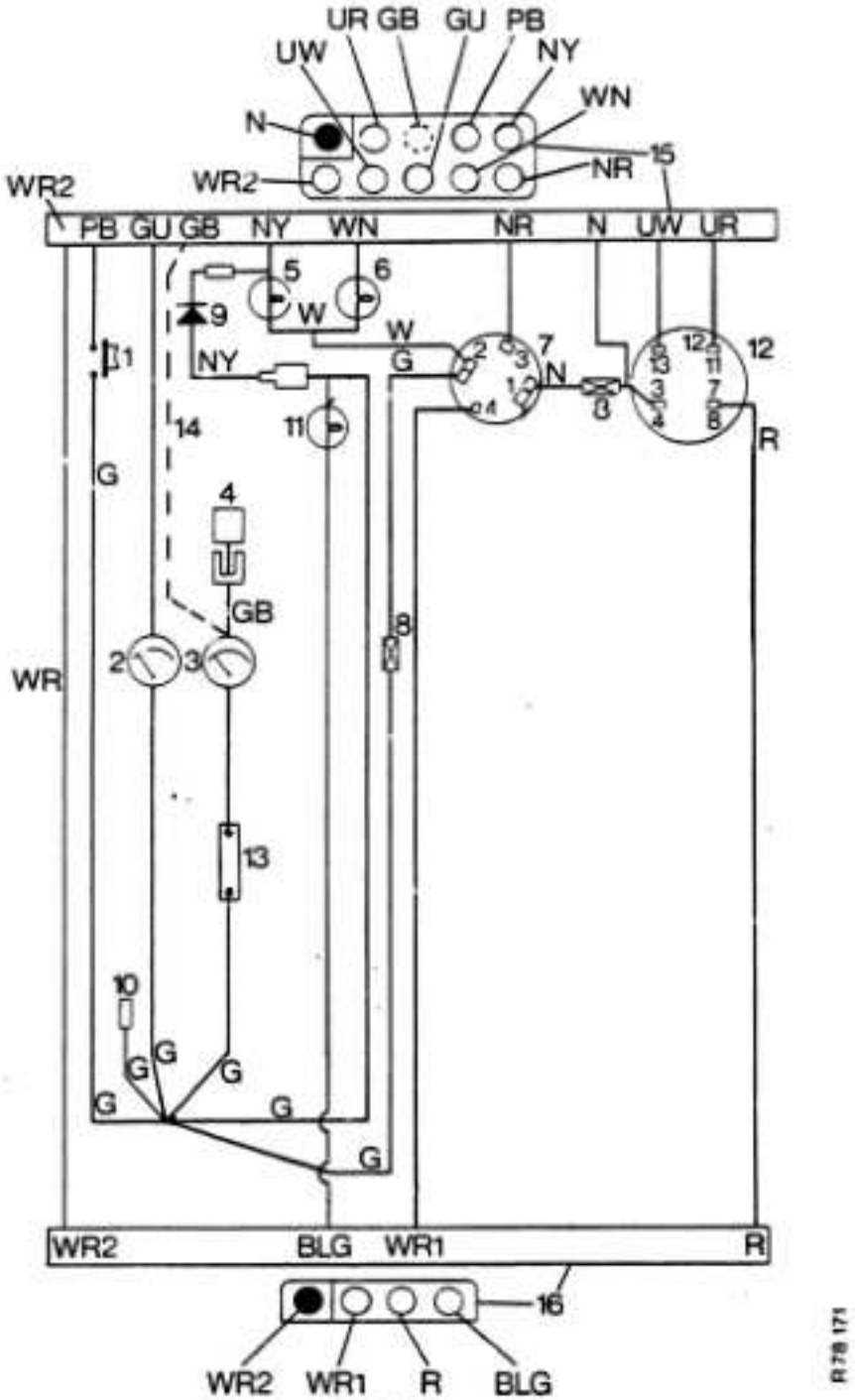


Figure H133
INSTRUMENT PANEL HARNESS
For tractors with shell fenders, from the following serial numbers:

885:633680
990:862037
995:930639
996:985304
1210:727072
1212:1003291

1. Horn button.
2. Temperature gauge.
3. Fuel gauge.
4. Fuel tank unit.
5. Charge warning lamp, red.
6. Oil pressure warning lamp, green.
7. Isolating/Starter switch.
8. Fuses.
9. Diode.
10. Connection for extra equipment.
11. Hydraulic filter lamp, yellow.
12. Lighting switch.
13. Voltage stabiliser, 885 only.
14. Connection to fuel tank unit in engine harness, 12 series tractor.
15. 10-way connector, to engine harness.
16. 4-way connector to rear harness.

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