WIRING DIAGRAM

***NOTE**: Detail shows the start-pilot cold start device 4 which can be fitted as an alternative to the thermostarter*

★ To starter connection 50.

● To starter switch connection 50.

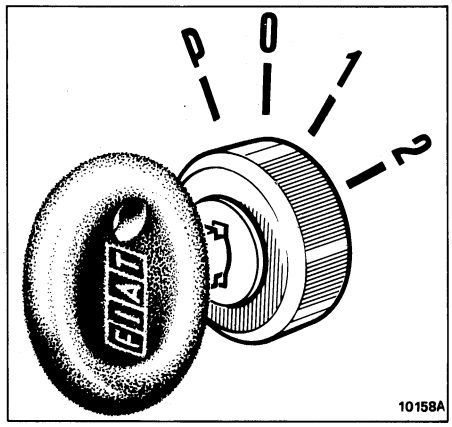
1. Headlamps.
2. Horn.
3. Battery.
4. Alternator.
5. Low engine oil level sending unit.
6. Low engine oil pressure sending unit.
7. Air cleaner restriction sending unit.
8. Thermostarter.
9. Engine coolant temperature sending unit.
10. Engine shut-off solenoid..
11. Starter.
12. Multiple gauge:
    - **a.** Battery charge indicator;
    - **b.** Low engine oil pressure indicator;
    - **c.** Air cleaner restriction indicator;
    - **d.** Parking brake on indicator;
    - **e.** Low brake fluid level indicator;
    - **f.** PTO on indicator;
    - **g.** Engine coolant temperature indicator;
    - **h.** Fuel gauge;
    - **i.** Parking light indicator;
    - **l.** High beam indicator;
    - **m.** Tractor turn signal indicator;
    - ***n.*** First trailer turn signal indicator;
    - **o.** Second trailer turn signal indicator;
    - **p.** Fuel sedimenter restriction indicator (optional).
13. Turn signal and hazard warning light flasher.
14. Turn signal, low and high beam, horn switch.
15. Lighting switch.
16. Flood light switch.
17. Engine oil level CHECK switch.
18. Lift indicator cluster:
    - **a.** Differential lock indicator;
    - **b.** Flood light indicator;
    - **c.** Engine oil level indicator;
    - **d.** Front wheel drive in indicator (Four wheel drive ve sion only).
19. Thermostarter (or start-pilot) switch.
20. R.H. indicator cluster:
    - **a.** Spare;
    - **b.** Spare;
    - **c.** Spare;
    - **d.** Spare.
21. Low brake fluid level sending unit.
22. Starter inhibitor switch.
23. Starter switch.
24. Cigar lighter.
25. Hazard warning button and indicator.
26. Parking brake flasher.
27. Single-pole power point.
28. Fuses.
29. Stop light switch.
30. Front parking and turn signal lights.
31. Fuel sedimenter.
32. Parking brake on indicator sending unit.
33. Front wheel drive indicator sending unit (Four-whe drive version only).
34. PTO indicator sending unit.
35. Differential lock indicator sending unit.
36. Rear turn signal, parking and stop lights.
37. Seven pole power point.
38. Fuel gauge sending unit.
39. Floodlight.
40. Start-pilot (optional, as alternative to thermostarter).

CABLE COLOUR CODE

A	= Light blue	**C**	= Orange
B	= White	**G**	= Yellow
H	= Grey	**M**	= Brown
L	= Blu	**N**	= Black
		V	= Green
R	= Red	**Z**	= Violet
S	= Pink		

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Starter Switch

0. Off. (key removable).

1. On.

2. Starting (when released key springs back to position **1**).

P. Parking lights, instrument lights, cigar lighter light and auxiliary floodlight switch (key removable).

⚠ CAUTION ⚠

— *Never start or run tractor in a closed area.*

— *Ensure all controls are in neutral position before starting.*

— *Operate controls from driver's seat only.*

— *Switch off engine before carrying out any service or maintenance operations.*

— *Use steps and grab handles for getting on and off the tractor.*

— *Ensure that guards are correctly mounted.*

— *When driving use on the road, always signal when stopping, turning or reducing speed.*

— *Use appropriate slow moving vehicle signs when operating on public roads.*

ENGINE STARTING

a. Before starting, check sump oil level (see page 17) with tractor on level ground and starter switch in position **1**.

b. After extended inactivity or when starting in cold weather, prime fuel pump through 20 strokes and run engine for 5 to 10 seconds with injection pump in fuel shut-off condition.

c. Declutch to activate starter inhibitor switch.

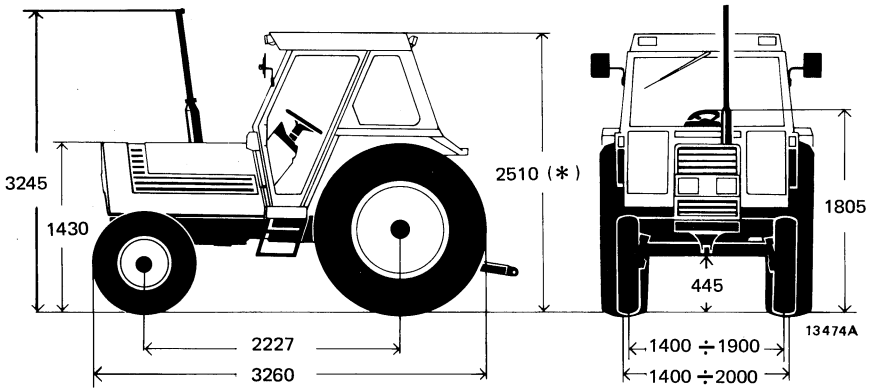
d. Move throttle lever to mid-stroke.

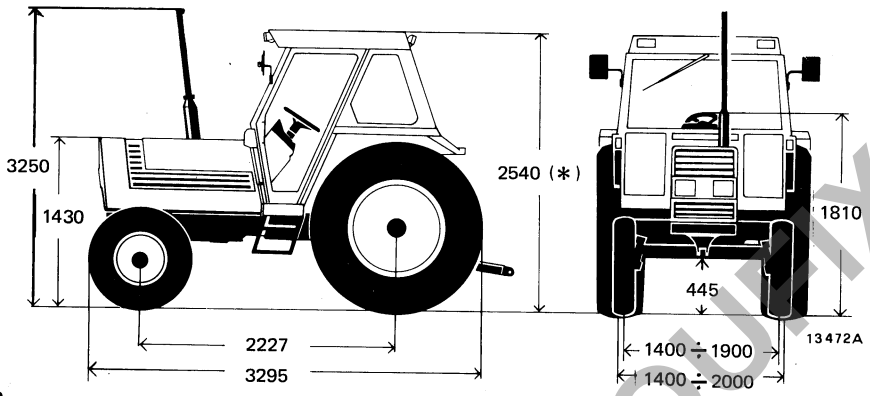
e. Turn starter switch key to position **2** and release as soon as engine fires.

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SPECIFICATION





DIMENSIONS - Model 55-90
Front tire size 6.00-16, rear tyre size 14.9/13-28

(*) 2495 mm (8 ft 2 in) with ROPS frame

WEIGHTS - Model 55-90
Operating weight with 6.00-16 and 14.9/13.28 tires, front ballast support, lift and 3-point linkage, tow hook and cab

. . . . . **2,780 kg or 6,129 lb.**

— As above with front weights (10 plates) and 6 rings or rear wheels

. . . . . **3,370 kg or 7,414 lb**

DIMENSIONS - Model 60-90
Front tire size 6.00-16, rear tire size 16.9/14.28.

(*) 2525 mm (8 ft 3 in) with ROPS frame

WEIGHTS - Model 60-90
Operating weight with 6.00-16 and 16.9/14-28 tires, front ballast support, lift and 3-point linkage, tow hook and cab.

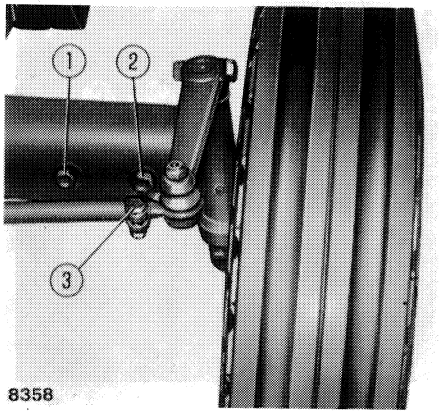
. . . . . **2.810 kg or 6,196 lb.**

— As above with front weights (10 plates) and 6 rings on rear wheels

. . . . . **3,400 kg or 7,480 lb**

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Track Adjustment

FRONT TRACK

To adjust front track proceed as follows:

— Raise front end of tractor applying jack to underside of axle beam.

— Unclamp the two beam extensions by removing clamp bolts **1** and **2** (torqued at 220 N·m, 22.5 kgm or 163 ft.lb).

— Remove clamp bolt **3** (torqued at 39 N·m, 4 kgm or 29 ft.lb) and adjust track rod length.

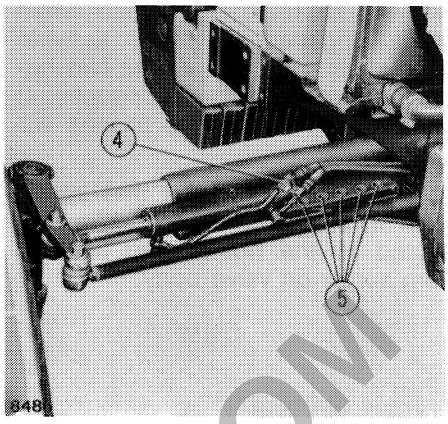
— Adjust track to one of six settings (1400 mm or 4ft 7 in, 1500 mm or 4ft 11 in, 1600 mm or 5ft 3 in, 1700 mm or 5ft 7 in, 1800 mm or 5ft 11 in, 1900 mm or 6ft 3 in)

1970 mm or 6ft 6 in maximum track width is obtainable by inverting wheel position on hub.

Maximum track should only be used where strictly necessary.

Wheel nuts are torqued at 294 N·m, 30 kgm or 216 ft.lb.

NOTE: For front track adjustment on 55-90 DT and 60-90 DT versions, turn to page 66



NOTE

Power steering version: L.H. wheel, proceed as described above. R.H. wheel, unclamp the sliding end, and alter the internal hydraulic cylinder attachment position as follows:

— *Slacken cylinder hose fittings.*

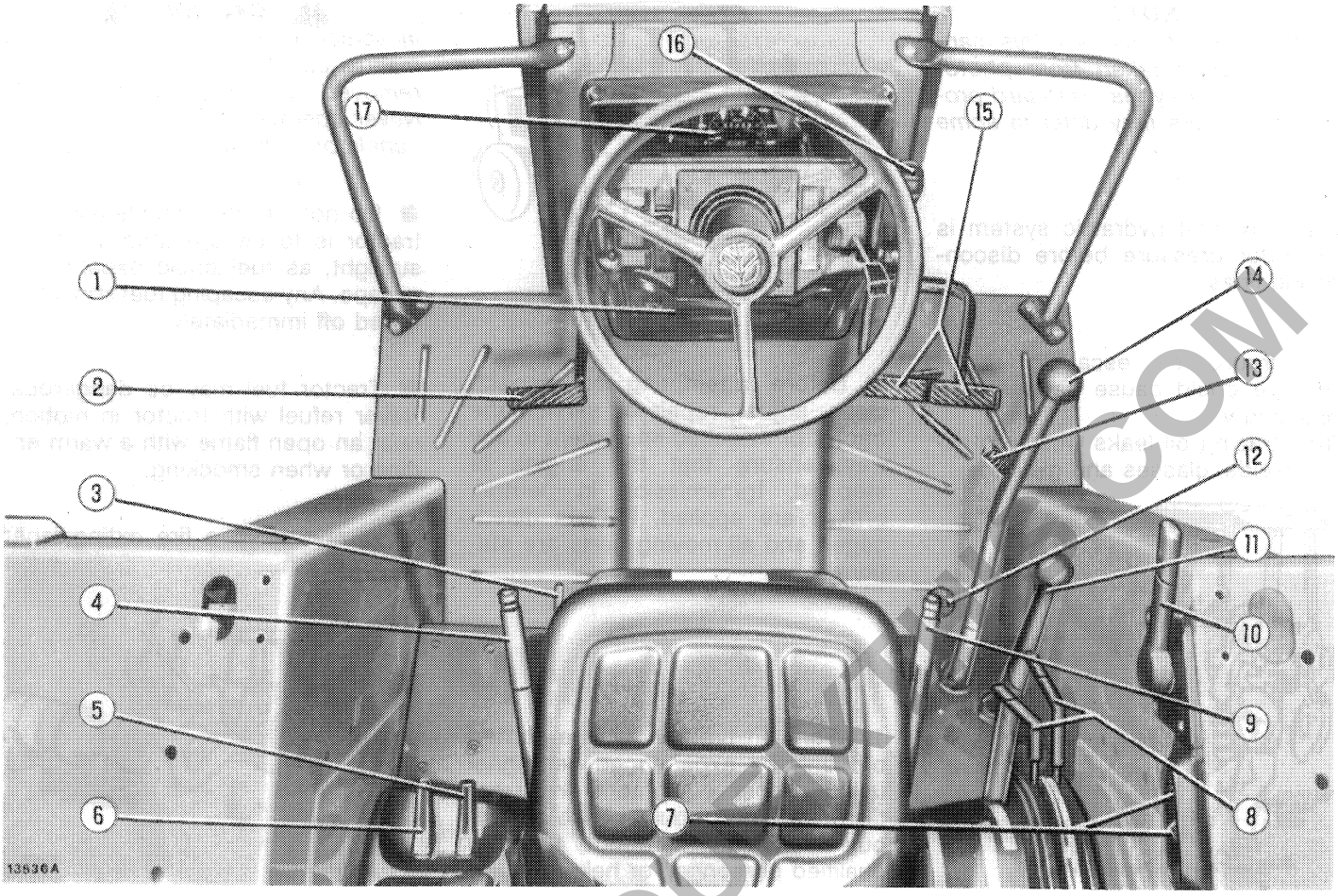
— *Move pivot* **4** into one of plastic plugged holes **5**.

— Tighten pivot nut to 294 N·m - 30 kgm - 217 ft lb.

— Check that hoses are not twisted and tighten associated fittings.

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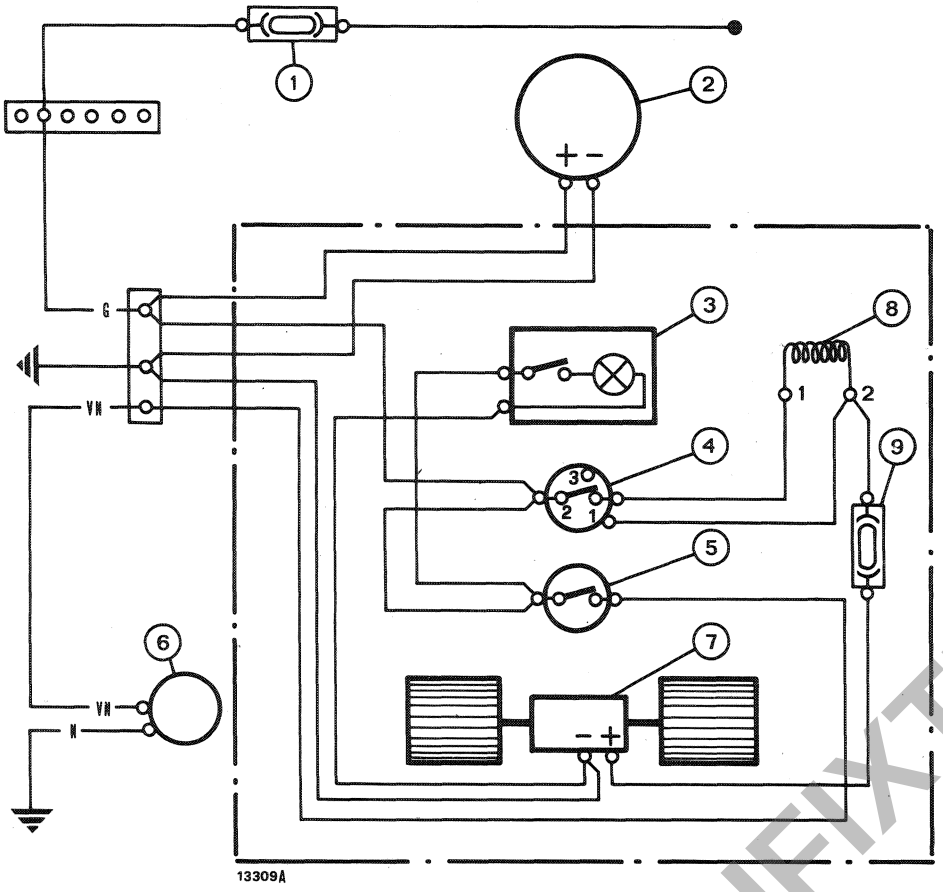
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14

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WIRING DIAGRAM, Comfort cab version

Differences from diagram on page 55:

● To fuse 7 on fuse box.

1. **25A** fuse for windshield wiper, windshield washer, fan, cab light.
2. Windshield wiper motor (single speed).
3. Cab interior light.
4. Fan switch.
5. Windshield washer switch.
6. Washer pump.
7. Fan unit.
8. Resistor.
9. Fuse.

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Brake System Bleeding

Brake bleeding becomes ncessary whenever the brake hydraulic lines have been disconnected or uneven braking is detected.
Brake system bleeding should be done by trained service personnel, or you can do it yourself, proceeding as follows:

— Throughly clean the area surrounding the bleed screws and the hydraulic oil reservoir cover.

NOTE

Do not reuse unfiltered fluid.

— Ensure that brake reservoir fluid level in R.H. section **A** and L.H. section **B** is kept topped up prior to and during the bleeding operation.

— Depress the L.H. brake pedal **slowly and fully** to build up brake pressure.

— Hold the pedal depressed, unscrew the bleed plug **C**through half a turn and allow the fluid to escape.

— Screw in the bleed pluc **C** and repeat the aboive operations until the issuing fluid is free from air bubbles.

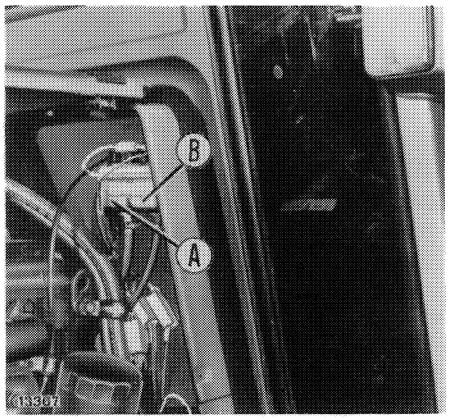
— Again operate brake pedal to build up fluid pressure in circuit; pressure is completely built up when pedal travel returns to normal.

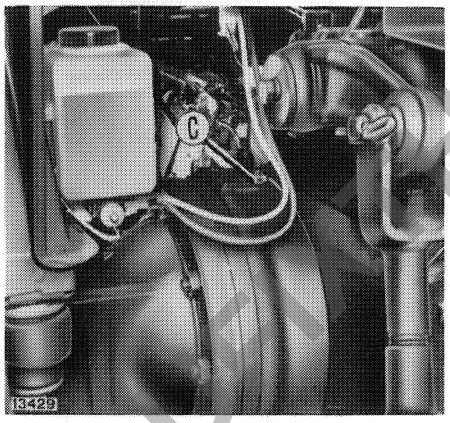
— Repeat the above sequence on the R.H. brake circuit.

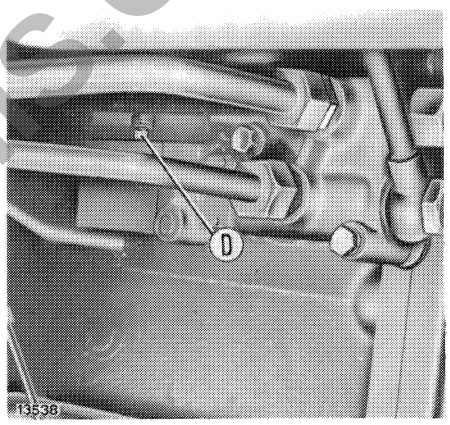
— Finally, top up the fluid reservoir.

⚠ CAUTION ⚠

*On tractors fitted with hydraulic trailer brake control valve bleed air first through screw **C** and then through screw **D**.*







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ENGINE

Model 55-90

Engine Type:	FIAT Diesel, 4-stroke, direct injection
— CAV pump	8035.06.200
— BOSCH pump	8035.06.300
No. of cylinders	3
Bore and stroke mm	100x115 (3.93x4.52 in)
Displacement	2710 cc
Compression ratio	17 to 1
Max. output DGM DIN kW	40
Max. output DGM DIN HP	55
Full load speed	2500 rpm
Full torque speed	1500 rpm

Model 60-90

Engine Type:	FIAT Diesel, 4-stroke, direct injection
— CAV pump	8035.05.205
— BOSCH pump	8035.05.305
No. of cylinders	3
Bore and stroke mm	104x115 (4.09x4.52 in)
Displacement	2931 cc
Compression ratio	17 to 1
Max. output DGM DIN kW	44
Max. output DGM DIN HP	60
Full load speed	2500 rpm
Full torque speed	1500 rpm

Valve gear

Valves	
Overhead	
Intake opens:	3° B.T.D.C.
Intake closes:	23° A.B.D.C.
Exhaust opens:	48°30' B.B.D.C.
Exhaust closes:	6° A.T.D.C.
Valve clearance (for timing check)	0.45 mm (0.017 in)
Valve clearance (normal, engine warm or cold):	
— Intake	0.25 in (0.010 in)
— Exhaust	0.35 mm (0.014 in)

Fuel system

Supply pump	Double diaphragm, injection pump driven
CAV pump	
— Type	DPS, distributor
— Governor	Centrifugal, all speed
BOSCH pump	
— Type	VE3/11F 1250, distributor
— Governor	Centrifugal, all speed
— Advance device	Automatic
Fuel filters	
— Feed pump	Gauze
— Injection pump	Twin, in-line, cartridge (water separator on primary filter)
Fuel sedimenter	Optional
Air cleaner	Oil-bath or dry twin cartridge
Pre-cleaner	Centrifugal, self-cleaning with automatic dust ejector
Hood-mounted precleaner	Optional

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MAINTENANCE

Maintenance Schedule (55-90/60-90)

Numbers correspond to those of operations listed in the Servicing Chart (inside back cover).

◇ ADJUSTMENTS

6. Air conditioner compressor drive belts.
Deflection = 12 to 13 mm (1/2 in) applying a 78 to 98 N (8 to 10 kg or 18 to 22 lb) load.

11. Fan belts. Deflection = 10 to 11 mm (1/2 in) applying a 78 to 98 N (8 to 10 kg or 18 to 22 lb) load.

12. Master clutch. Pedal free travel = 190 mm or 7½ in (170 mm or 6¾ in for tractors with cab).

13. P.T.O. clutch. Withdrawal lever pin travel = 3.5 mm or 0.138 in.

31. Parking brake grip free travel = 7 clicks.

44. Engine valves.
Clearance 0.25 mm or 0.010 in intake, and 0.35 mm or 0.014 in exhaust.

45. Fuel injectors. Release pressure 230 to 238 bar (235 to 243 kg/cm² or 3,335 to 3,524 psi).

50. Starter.

△ LEVEL CHECKS

3. Radiator expansion tank.

4. Windshield washer fluid reservoir.

5. Battery (see page 52).

7. Brake fluid reservoir.

8. Power steering reservoir.

9. Oil-bath air cleaner.

14. Engine sump.

30. Front final drive oil (DT).

32. Front axle oil (DT).

37. Rear transmission and lift oil.

□ FLUID CHANGE

24. Engine sump.

43. Power steering.

47. Rear transmission and lift oil.

51. Front final drive oil (DT).

52. Front axle oil (DT).

⌂ FILTER CHANGE

6. Receiver drier.

27. First fuel filter.

28. Lift oil filter.

29. Dry air cleaner inner cartridge.

38. Engine oil filter.

39. Second fuel filter.

40. Dry air cleaner inner and outer cartridge.

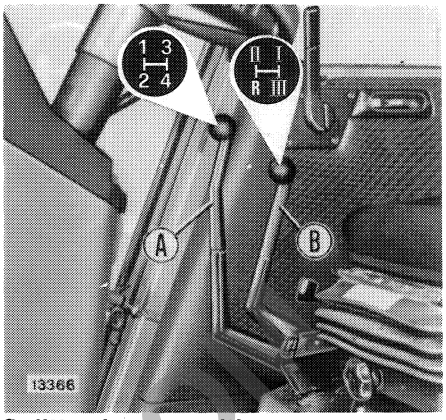
41. Comfort cab air filter.

42. Supercomfort cab air filter.

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Transmission and Splitter



Splitter lever positions.

Transmission and splitter are controlled by two separate levers.

Transmission (lever **A**) provides four gear ratios (**1, 2, 3, 4**).

Splitter (lever **B**) provides three forward ranges:

— **I** = Low;
— **II** = Normal;
— **III** = High;

and one reverse range (**R**) for each gear ratio.

Thus **twelve** forward and **four** reverse speeds are available.

To change gear range stop the tractor, push the splitter lever to the right and move it forward for low and back for high.

To select reverse **R**, stop the tractor and move splitter lever back and to the left.

To change up and down in the same range (reverse included) depress the master clutch pedal and shift the gear lever. Tractor need not be stopped, as all gears are synchromesh.

I **Low.**

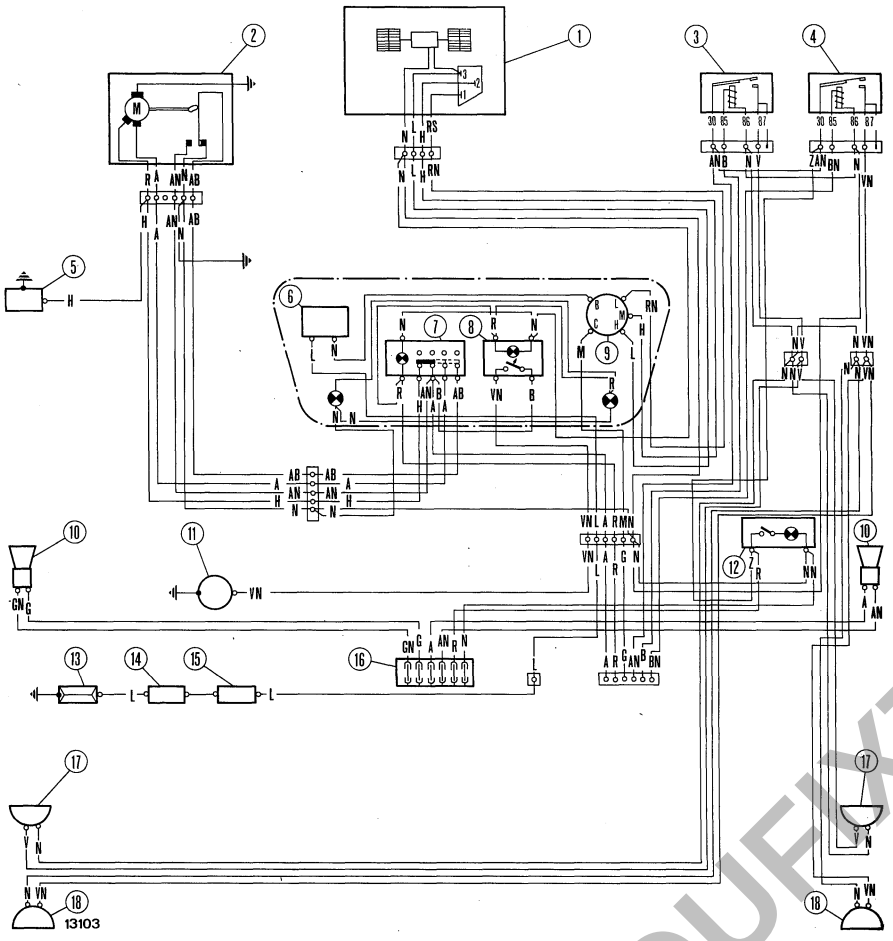
II **Normal.**

III **High.**

R **Reverse.**

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Wiring diagram (air conditioned cab).

Differences from diagram on page 55:

1. Air conditioner.
2. Windshield wiper motor.
3. Front flood light relay.
4. Rear flood light relay.
5. Radio interference suppressor capacitor.
6. Air conditioner thermostat.
7. Wiper switch.
8. Washer button.
9. Fan switch.
10. Speakers.
11. Washer pump.
12. Lamp and switch.
13. Compressor electromagnetic coupling.
14. Maximum pressure switch.
15. Minimum pressure switch.
16. Terminal box.
17. Front flood lights.
18. Rear flood lights.

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Fuel System Bleeding

Air may enter fuel lines after tractor has been out of commission for some time, during filter removal and line disconnection, or if fuel tank is allowed to become empty. The presence of air in fuel system makes for difficult engine starting and should be eliminated with a full tank and valve **R** open.

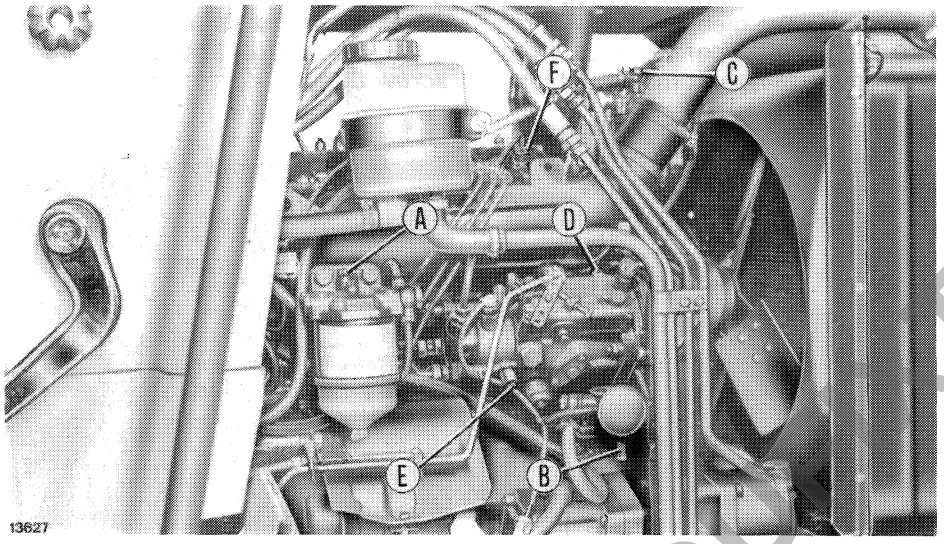
CAV PUMP ENGINE

1. Back off plug **A** through two turns and pump lever **B** until fuel issuing from plug orifice is free from air bubbles. Retighten plug.

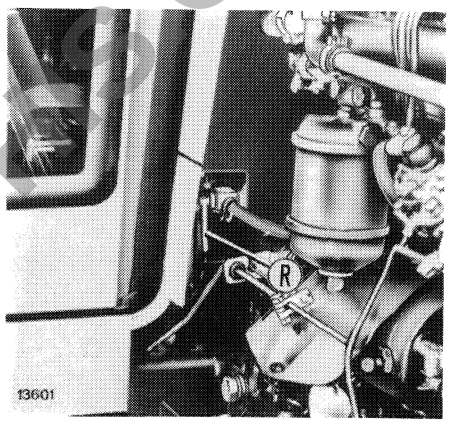
2. Repeat on plug **C** and, subsequently, on screw **D**.

3. Back off screw **D** and hexagonal screw **E** through two turns, fully slacken four connections **F** and crank engine through starter until fuel issuing from fuel lines is free from air bubbles. Retighten connections **F** and exagonal screw **E** but not screw **D**

4. Start engine and retighten screw **D** when issuing fuel is free from air bubbles.



13627



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