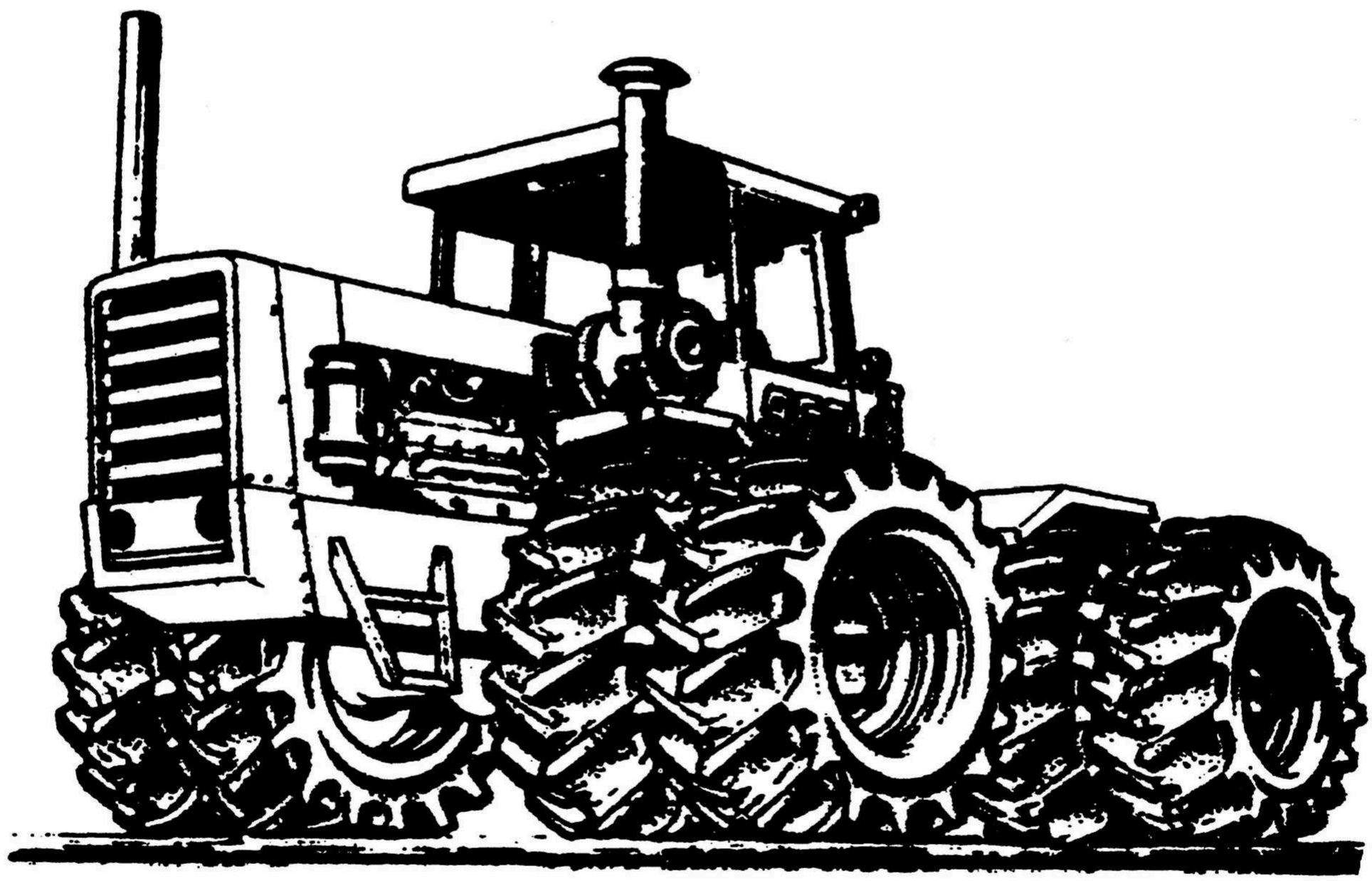
VERSATILE

Service Manual

Series 2 Tractors
700, 750, 800, 825, 850,
900 & 950



40070060

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SECTION 1: SERVICING

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TABLE 1-3: Speeds in Miles per Hour

MODEL	700 2850 rpm				750, 800, 825 2100 rpm				850 2100 rpm				900 & 950 2400 rpm			
Range	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Low Gear	2.6	3.1	3.5	4.1	2.6	3.0	3.5	4.1	2.6	3.0	3.5	4.1	2.5	3.0	3.3	4.0
Second Gear	4.7	5.6	6.3	7.5	4.7	5.5	6.3	7.3	4.7	5.5	6.3	7.3	4.5	5.4	6.0	7.2
High Gear	9.1	10.8	12.2	14.5	9.2	10.7	12.3	14.3	9.2	10.7	12.3	14.3	8.8	10.5	11.7	14.1
Reverse	3.4	4.0	4.5	5.3	3.4	3.9	4.5	5.2	3.4	3.9	4.5	5.2	3.3	3.9	4.3	5.2

NOTE: All speeds are with 24.5 x 32 tires (31.5 in. loaded radius tires).

Spicer Glidecote telescoping action

Driveline carrier bearing on center swing frame

4.15 AXLES

VERSATILE design

Spiral bevel (and planetaries, on Models 850, 900, 950) differential with outboard planetary floating ring gear final drive.

Eaton differential - (Models 700, 750, 800, 825 - Series 17103. Models 850, 900, 950 - Series 23120)

Differential housing and axle tubes - Ductile iron

Oil Capacity -
Models 700, 750, 800, 825 - 38 U.S. qts., 31.6 Imp. qts.,
Models 850, 900, 950 - 40.4 U.S. qts., 34.0 Imp. qts.

Lubrication - SAE 90 MIL 2105 B gear oil

Axle seals - Unitized (combined neoprene seal and wear sleeve), prelubricated labyrinth-type guard.

Wheel mounting bolts - Twelve, 0.75 in. diameter

4.16 STEERING

Articulated frame - 42 degrees in each direction

Fully hydrostatic actuation

Two 3 in. I.D. x 16.5 in. stroke actuators mounted with 1.25 in. self-aligning ball bushings.

4.17 HYDRAULIC SYSTEM

Pump gear type. Flow: Model 700 - 25 U.S. gpm. Models 750, 800, 825, 850 - 23.5 U.S. gpm, Models 900, 950 - 26.9 U.S. gpm.

Drive - engine mounted gear driven

Relief valve - set at 2300 - 50 psi

Two-way spools which self-cancel at 2100 - 0 to 100 psi

One four-way spool with float position

Reservoir - vented, 74.5 U.S. qts., (62 Imp. qts.) capacity

Dipstick oil level check and low level sight glass

4.18 ELECTRICAL SYSTEM

12 volt - negative ground system

12 volt - 75 amp Delco-Remy alternator

Two 8D-900 amp 12 volt batteries, connected in parallel inside clean compartment

AWG 00 starting cables

Circuit breakers - automatic resetting type

Fuses - accessible and identified

Six 60 watt working lights (exceeds ASAE 279.6)

Two red tail lamps for highway (ASAE 279.6)

4.19 FRAME

Articulated frame 4-wheel drive

Oscillates to 15 degrees in both directions

Front frame - 3/8 in. formed side plates with 1/2 in. rear end plate. Reinforcement near axle mounting pads

Rear frame - 1/2 in. formed plate

4.20 DRAWBAR

Swinging clevis type - 1.75 in. x 5.0 in. steel with wear block, 1.5 in. hardened steel pin with locking lever.

Replaceable hardened bushings

Height - 18 in. to top of main member

4.21 CAB

VERSATILE design - independent module type with rollover protective structure (ASAE S336.1)

Fully isolated on rubber mounts

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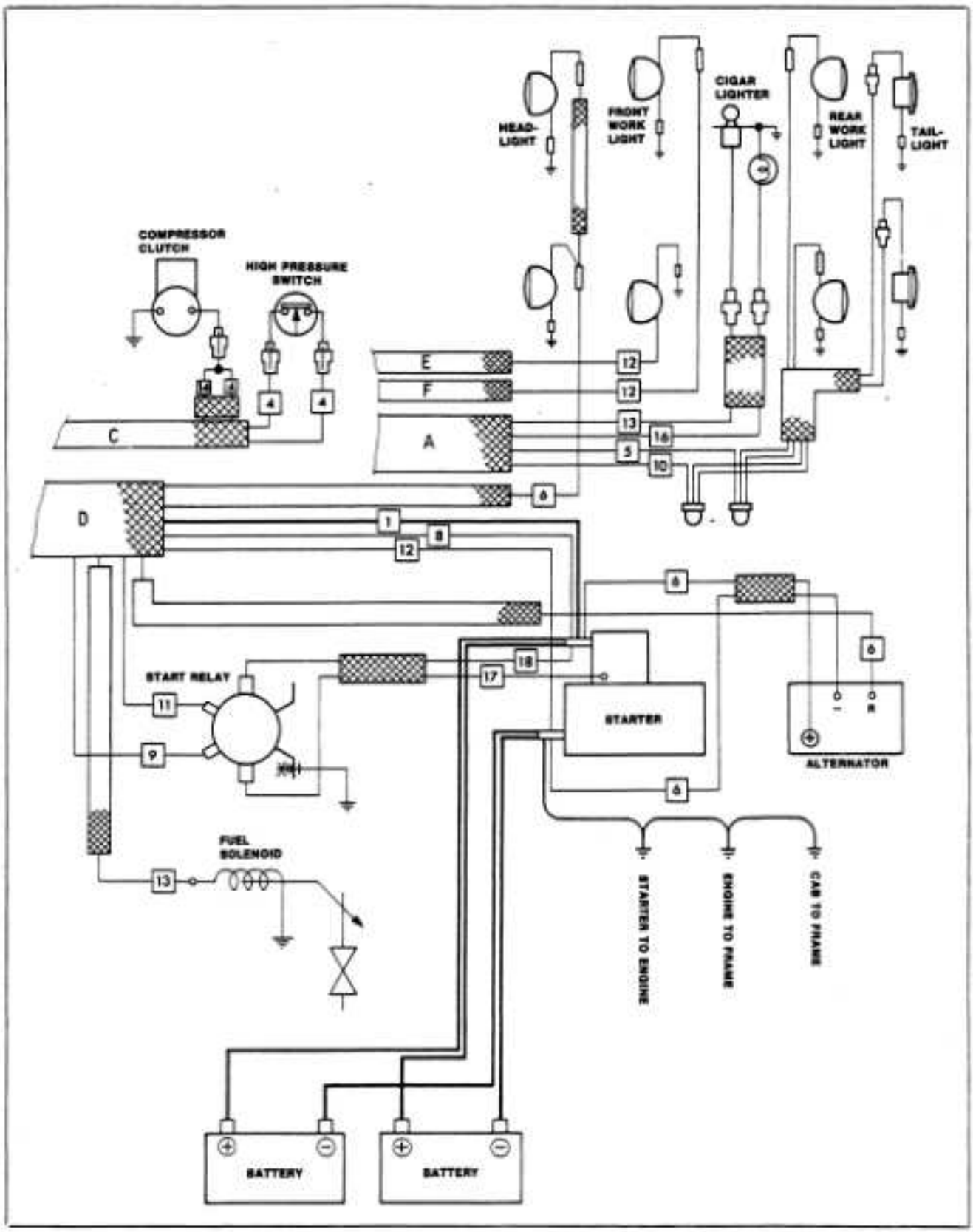


FIGURE 6-22 (Sheet 1 of 3): Wiring Diagram - Engine Compartment, Battery Compartment and Rear Cab

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Troubleshooting Procedure

To troubleshoot the air conditioning system, carry out the following diagnostic procedure making reference to the troubleshooting chart for analysis of trouble (Ref. Table 7-3):

1. Connect gauge and manifold set into the system, refer to para 4.3.
2. Operate the air conditioner system and carry out a system performance test, refer to para 4.4.
3. Note gauge readings and other observed indications. Note that for an ambient temperature of 110° F, the optimum high pressure gauge reading is 250-270 psi and the low pressure gauge reading should be approximately 30 psi.
4. Refer to the troubleshooting chart for trouble indicated. Carry out any additional tests as required.
5. Starting at the first listed probable cause, carry out the remedy listed.

TABLE 7-3
Air Conditioning Troubleshooting Chart

TROUBLE	PROBABLE CAUSE	REMEDY
1. Air conditioning system completely inoperative, compressor does not cut in.	a) Circuit breaker open.	a) Replace circuit breaker, refer to Section 6.
	b) Faulty compressor clutch field coil.	b) Carry out check of the low pressure warning circuit and determine if compressor field coil is energized. If field coil is energized but doesn't engage clutch, replace field coil. If problem still not rectified, replace thermostat.
2. Low side gauge reading slightly low (should be 15-30 psi) High side gauge also reading too low for ambient temperature (see chart). Stream of bubbles may also be evident in receiver / dryer sight glass and discharge air from evaporator may be only slightly cool.	a) System refrigerant level low.	a) Carry out system charging, then check compressor oil level and carry out system performance test.
	b) Slight leak in system.	b) Carry out system leak detection then repair leak. After repair, carry out system charging, and compressor oil level check. After completion, carry out system performance test.
3. Low side gauge reading very low, high side gauge reading also very low. Foamy bubbles or oil streaks evident in receiver / dryer sight glass. Discharge air from evaporator is warm. Low pressure warning lamp may illuminate and system cut out.	a) System excessively low on refrigerant. Serious leak indicated.	a) Carry out system leak detection, then repair leak. After repair, carry out compressor oil level check, system evacuation, charging and performance test. Purge system as required. Re-check oil level.

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