DROTT
Shifter 650

Service Supplement

S406285

CASE CONSTRUCTION

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COMPONENT CAPACITIES

COMPONENT	CAPACITY	LUBRICANT/ FLUID
Engine Crankcase	14 qts. (13.2 l) plus 2 qts. (1.9 l) with filter change	See engine manufacturer's manual
Cooling System	8½ gal. (32.2 l)	1/2 water, 1/2 ethylene glycol base anti-freeze
Fuel Tank	50 gal. (190 l)	No. 2 Diesel Fuel
Hydraulic Reservoir	30 gal. (114 l)	DROTT DHF fluid, or alternate as specified under Hydraulic Oil Recommendations
Complete Hydraulic System	35-50 gal. (130-190 l) depending on unit height & width	
Master Brake Cylinder System	Approx. 1/2 gal. (1.8 l) depending on height and width of unit	Type "A" Brake Fluid - must meet or exceed SAE J 1703E Spec.
Pump Drive Transmission	3 qts. (2.8 l)	E.P. 80-90 gear lube
Drive Gearbox	4 qts. (3.8 l)	SAE No. 30 Oil
Hoist Gearbox	4 qts. (3.8 l)	SAE No. 30 Oil
Traverse Gearbox	1 qt. (.9 l)	SAE No. 140-5 Worm Gear Lube

TIRE PRESSURE

SIZE	PSI	kPa	PLY RATING
16:00 x 25	125	860	24

HYDRAULIC SYSTEM OPERATING PRESSURES

UNIT	SUPERCHARGE		SERVO CONTROL		STEERING VALVE		MAIN VALVE	
	PSI	kPa	PSI	kPa	PSI	kPa	PSI	kPa
SHIFTER 650	200 185	1380 1270	250 200	1720 1380	2100 2000	14 500 13 800	2775 2725	19 130 18 790

NOTE: Pressure readings shown are at pressure test points with valve in unit (full rpm).

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3. Beam Cylinders

Removal

1. Clean the cylinder and hydraulic lines prior to removal to prevent entry of dirt into the system.

2. Loosen the hydraulic connections SLOWLY to release pressure in the cylinder circuit. Remove and cap the hydraulic lines at the cylinder.

3. Remove the cylinder mounting pins and guide bracket. Take cylinder to a clean work area for disassembly.

Disassembly

NOTE

The cylinder is serviced in assembly form only. Service kits are available for replacement of the complete head assembly, the cap assembly or the seals. If the piston or rod is damaged, the entire cylinder must be replaced. A spanner wrench and a gland cartridge wrench are available for repair of the cylinder. See Parts Book. Installation instructions are included with each service assembly kit.

1. To disassemble the cylinder, remove nuts from either end of the tie bolts and separate the individual assemblies.

2. To remove the head end or gland assembly from the rod, unscrew the clevis end. Use a wrench on the flats of the rod to prevent it from turning.

Reassembly

Reassemble in reverse order. Instructions are included in the service kits. Also refer to figure 28 for relationship of parts and correct positioning of the seals.

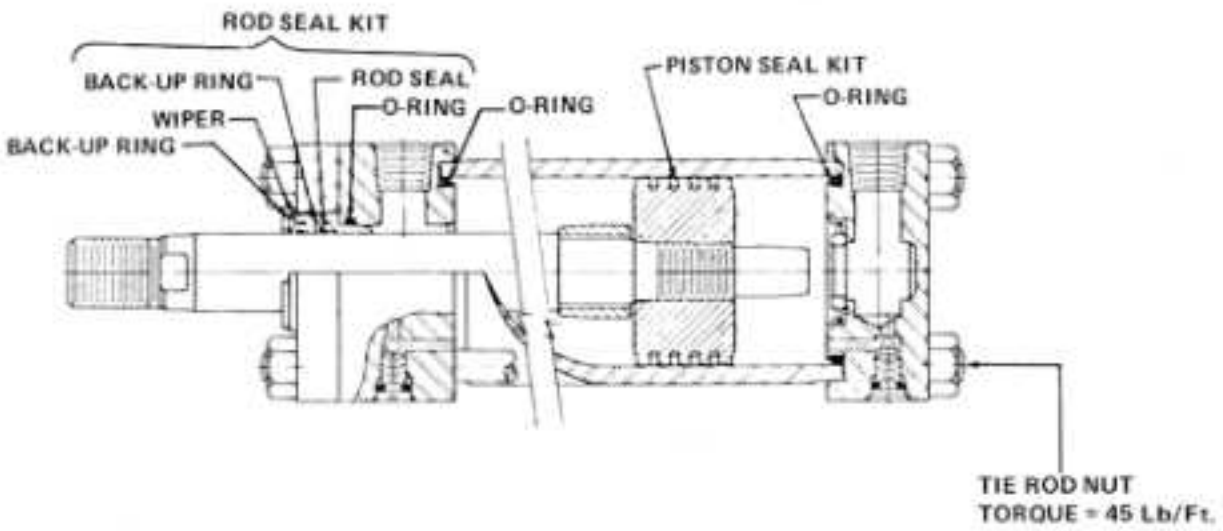


Figure 28. Beam Cylinder

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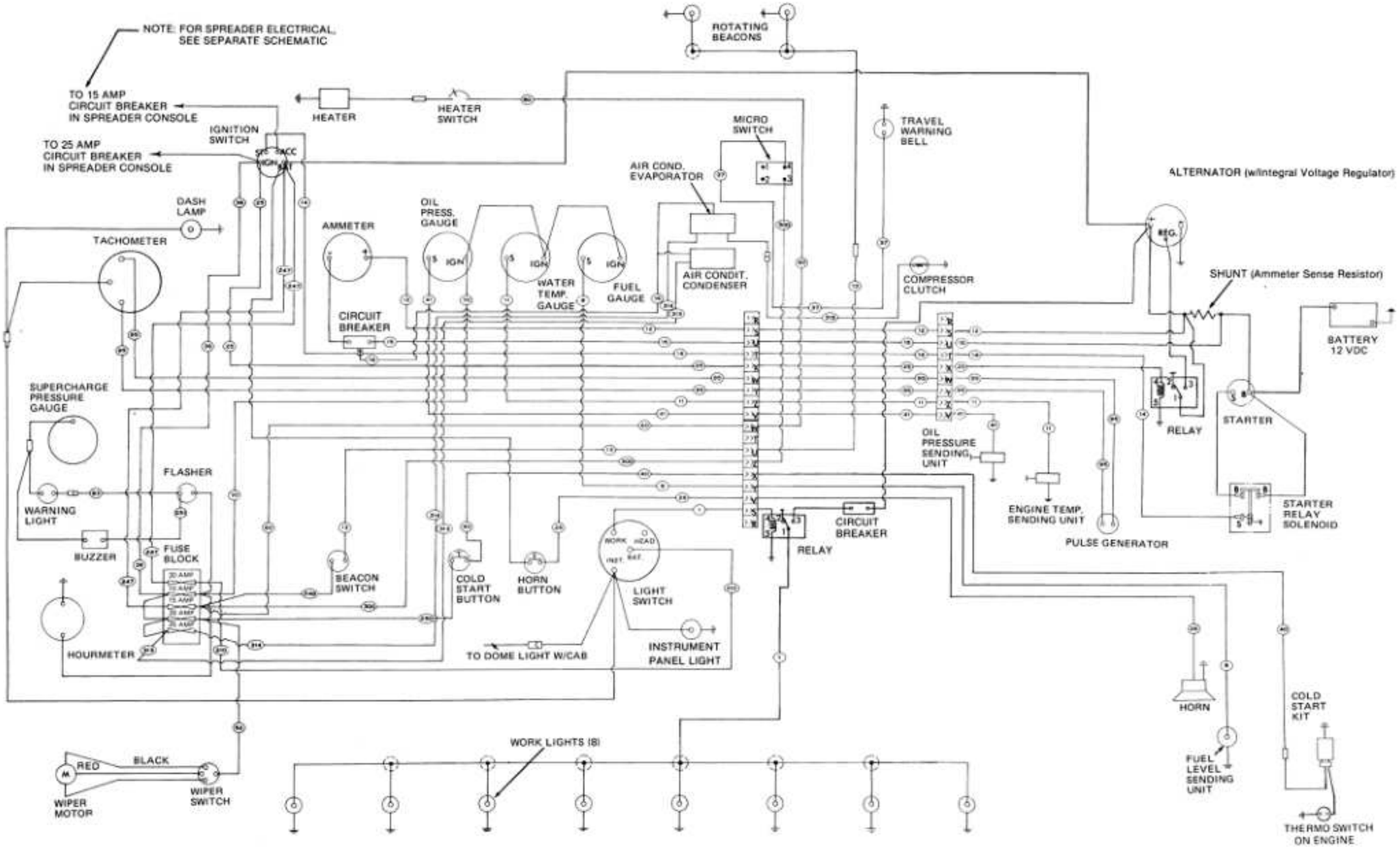


Figure 36. Electrical Schematic - Basic Unit

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COLOR CODES FOR JUNCTION BOXES ON MOVEABLE BEAMS

NOTE: Except for the coil cords, the cables are not physically numbered as shown. These numbers are shown for ease of assembly and should be coordinated with the color code charts below.

VALVE END	
WIRE NO.	COLOR CODE
1	WHITE
2	WHITE
5	GREEN
136	BLACK
136A	WHITE
139	BLACK
139A	WHITE
142	RED
142A	RED
149	BLACK
149A	BLACK
151	BLACK

NON-VALVE END	
WIRE NO.	COLOR CODE
1	WHITE
2	WHITE
5	GREEN
136A	BLACK
139A	BLACK
142A	RED
144	WHITE
149A	BLACK
151	BLACK

THIS COLOR CODE DOES NOT APPLY TO COIL CORDS.

LIST OF SWITCH CONNECTIONS

(1) S 113552 SWITCH CONNECTIONS -
WIRE — 2 — TO TERMINAL #4
WIRE — 5 — TO TERMINAL #7
WIRE — 142A — TO TERMINAL
WIRE — 149A — TO TERMINAL #3

(2) S 112957 SWITCH CONNECTIONS -
WIRE — 139 — TO TERMINAL #4
WIRE — 139A — TO TERMINAL #3

(3) S 11294 9 SWITCH CONNECTIONS -
WIRE — 2 — TO TERMINAL #3
WIRE — 5 — TO TERMINAL #7
WIRE — 142 — TO TERMINAL #8
WIRE — 148 — TO TERMINAL #4

(4) S 113551 SWITCH CONNECTIONS -
WIRE — 136 — TO TERMINAL #3
WIRE — 136A — TO TERMINAL #4

(5) S 113552 SWITCH CONNECTIONS -
WIRE — 2 — TO TERMINAL #3
WIRE — 5 — TO TERMINAL #8
WIRE — 142A — TO TERMINAL #7
WIRE — 149A — TO TERMINAL #4

(6) S 112957 SWITCH CONNECTIONS -
WIRE — 139A — TO TERMINAL #4
WIRE — 144 — TO TERMINAL #3

(7) S 112949 SWITCH CONNECTIONS -
WIRE — 2 — TO TERMINAL #3
WIRE — 5 — TO TERMINAL #7
WIRE — 1 — TO TERMINAL #4
WIRE — 144 — TO TERMINAL #8

(8) S 113551 SWITCH CONNECTIONS -
WIRE — 136A — TO TERMINAL #3
WIRE — 144 — TO TERMINAL #4

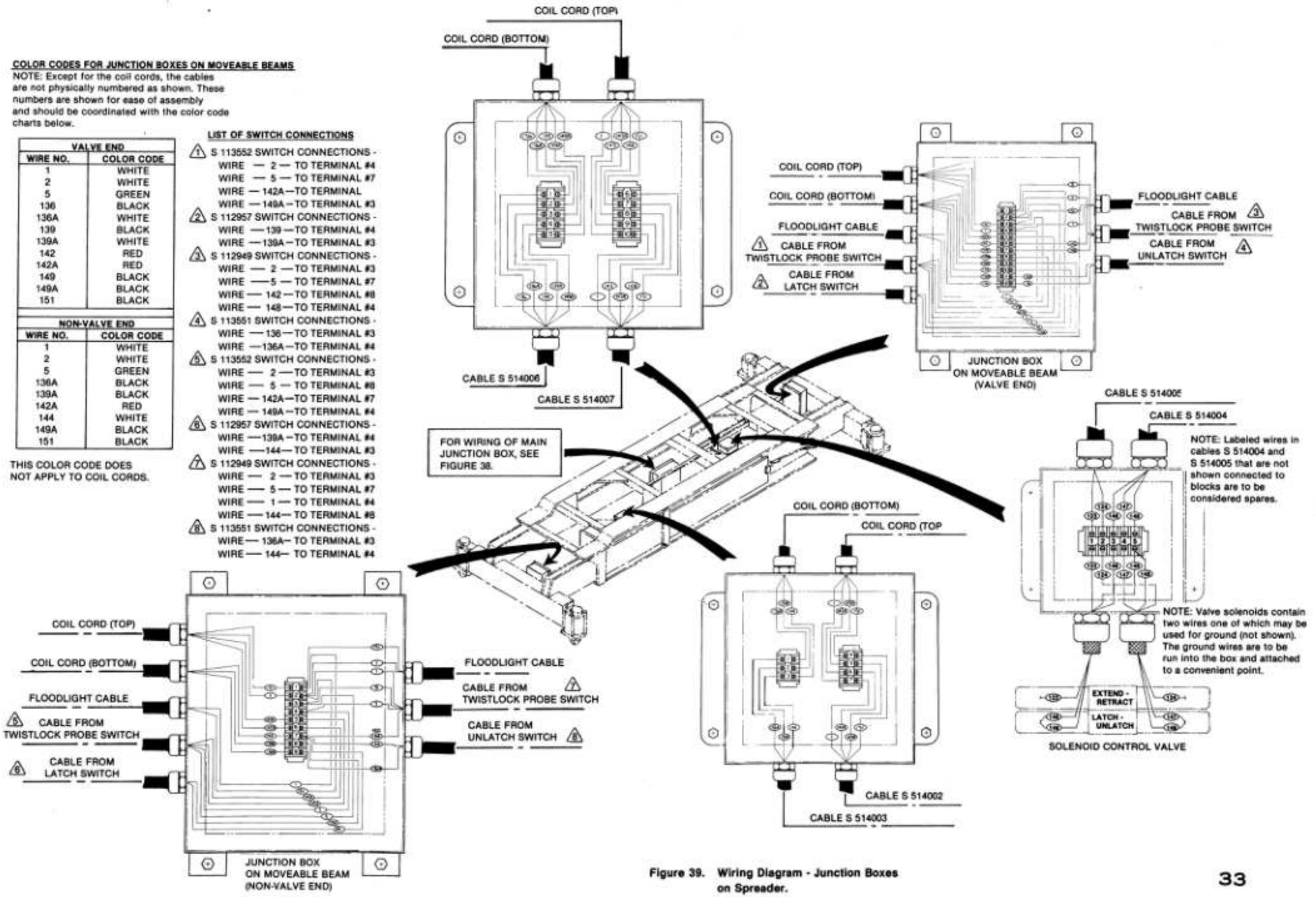


Figure 39. Wiring Diagram - Junction Boxes on Spreader.

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