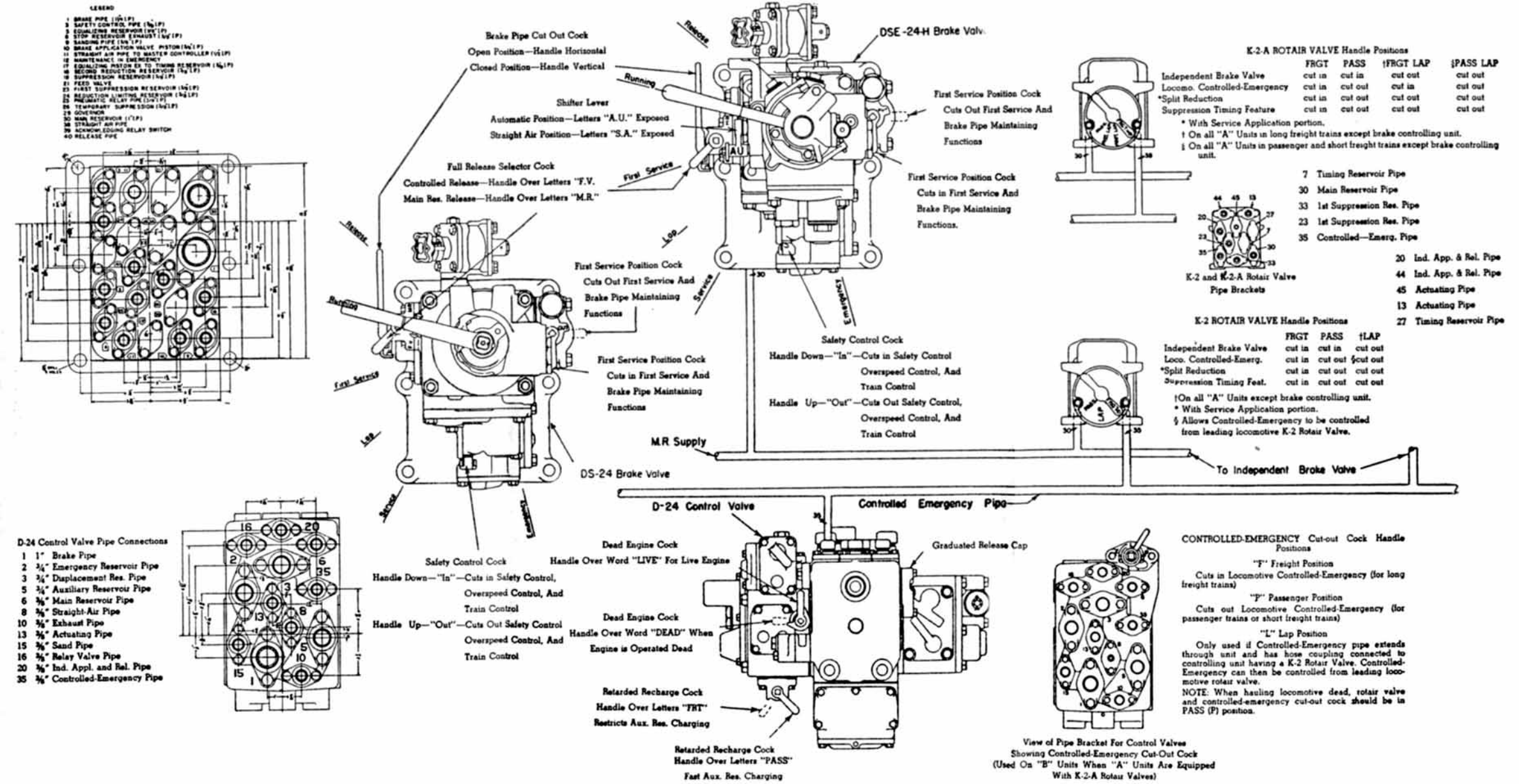
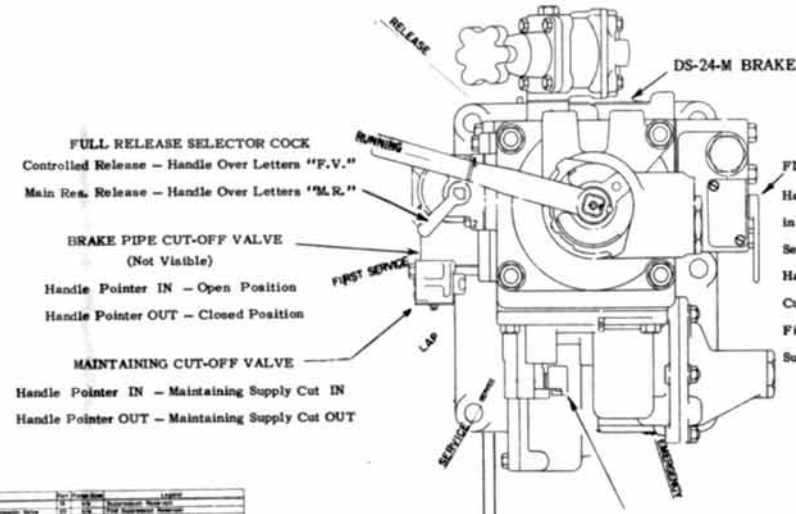


Plate 1 Cock Handle Positions for Operation of 24-RL Equipment in Various Types of Service

LOCATION OF COCKS AND VALVES

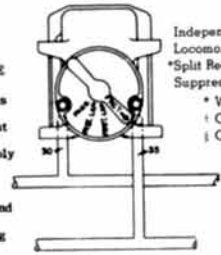
Cocks And Valves	New Brake Valve	Converted Brake Valve
Brake Pipe Cut-Off	Filling Piece Portion	Filling Piece Portion
Safety Control	Application Portion	Application Portion
Maintaining Cut-Off	Application Portion	Filling Piece Portion
First Service	Filling Piece Portion	Filling Piece Portion
Selector Cock	Rotary Valve and Seat	Rotary Valve and Seat

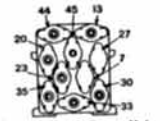


K-2-A ROTAIR VALVE Handle Positions

	FRGT	PASS	†FRGT LAP	‡PASS LAP
Independent Brake Valve	cut in	cut in	cut out	cut out
Locomo. Controlled-Emergency	cut in	cut out	cut in	cut out
*Split Reduction	cut in	cut out	cut out	cut out
Suppression Timing Feature	cut in	cut out	cut out	cut out

* With Service Application portion.
† On all "A" Units in long freight trains except brake controlling unit.
‡ On all "A" Units in passenger and short freight trains except brake controlling unit.





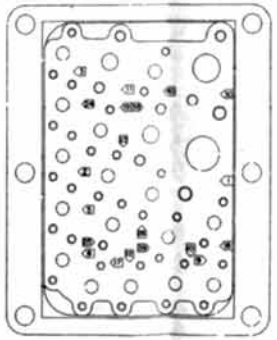
K-2 and K-2-A Rotair Valve Pipe Brackets

7 Timing Reservoir Pipe
30 Main Reservoir Pipe
33 1st Suppression Res. Pipe
23 1st Suppression Res. Pipe
35 Controlled—Emerg. Pipe
20 Ind. App. & Rel. Pipe
44 Ind. App. & Rel. Pipe
45 Actuating Pipe
13 Actuating Pipe
27 Timing Reservoir Pipe

K-2 ROTAIR VALVE Handle Positions

	FRGT	PASS	†LAP
Independent Brake Valve	cut in	cut in	cut out
Loco. Controlled-Emerg.	cut in	cut out	§cut out
*Split Reduction	cut in	cut out	cut out
Suppression Timing Feat.	cut in	cut out	cut out

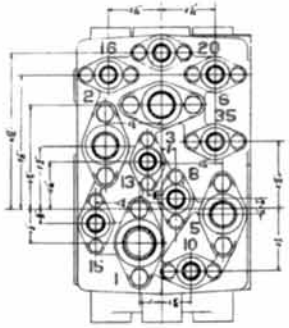
†On all "A" Units except brake controlling unit.
* With Service Application portion.
§ Allows Controlled-Emergency to be controlled from leading locomotive K-2 Rotair Valve.

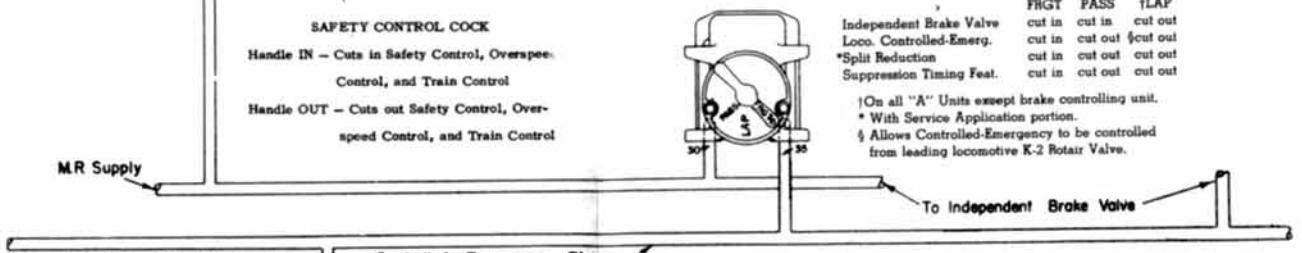


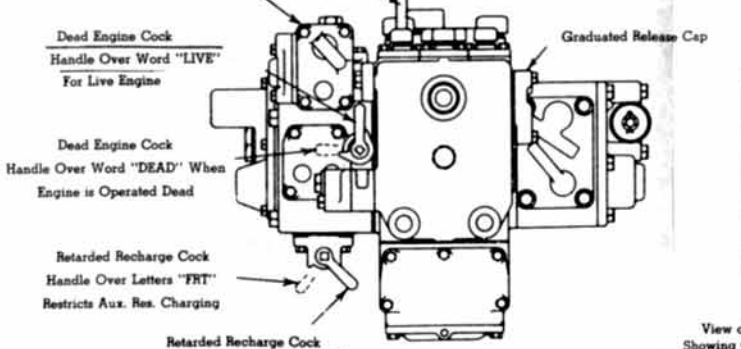
PIPE BRACKET
D-24-M Type Brake Valve

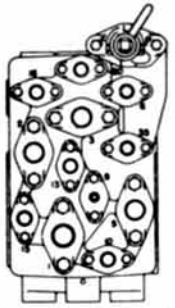
D-24 Control Valve Pipe Connections

1 1" Brake Pipe
2 ¾" Emergency Reservoir Pipe
3 ¾" Displacement Res. Pipe
5 ¾" Auxiliary Reservoir Pipe
6 ⅜" Main Reservoir Pipe
8 ⅜" Straight-Air Pipe
10 ⅜" Exhaust Pipe
13 ⅜" Actuating Pipe
15 ⅜" Sand Pipe
16 ⅜" Relay Valve Pipe
20 ⅜" Ind. Appl. and Rel. Pipe
35 ⅜" Controlled-Emergency Pipe









View of Pipe Bracket For Control Valves
Showing Controlled-Emergency Cut-Out Cock
(Used On "B" Units When "A" Units Are Equipped
With K-2-A Rotair Valves)

CONTROLLED-EMERGENCY Cut-out Cock Handle Positions

"F" Freight Position

Cuts in Locomotive Controlled-Emergency (for long freight trains)

"P" Passenger Position

Cuts out Locomotive Controlled-Emergency (for passenger trains or short freight trains)

"L" Lap Position

Only used if Controlled-Emergency pipe extends through unit and has hose coupling connected to controlling unit having a K-2 Rotair Valve. Controlled-Emergency can then be controlled from leading locomotive rotair valve.

NOTE: When hauling locomotive dead, rotair valve and controlled-emergency cut-out cock should be in PASS (P) position.

Plate 2 Handle Positions, 24-RL Equipment With Pressure Maintaining Brake Valve

LEAD "A" UNIT					"B" UNIT			TRAILING "A" UNIT				
K-2 ROTAIR			K-2-A ROTAIR					K-2 ROTAIR			K-2-A ROTAIR	
No. 35 Pipe Thru	No. 35 Pipe Thru Selector Cock on C.V.		No. 35 Pipe Not Thru	No. 35 Pipe Thru	No. 35 Pipe Thru No Selector Cock on Control Valve	No. 35 Pipe Thru Selector Cock on C.V.	No. 35 Pipe Not Thru Selector Cock on C.V.	No. 35 Pipe Thru	No. 35 Pipe Thru Selector Cock on C.V.		No. 35 Pipe Not Thru	No. 35 Pipe Thru
Rotair Pos.	Rotair Pos.	Cock Pos.	Rotair Pos.	Rotair Pos.		Cock Position	Cock Position	Rotair Pos.	Rotair Pos.	Cock Pos.	Rotair Pos.	Rotair Pos.
Frt.					Controlled From Lead Unit			Lap	Lap	Lap	Frt. Lap 2	Frt. Lap
Pass.					Controlled From Lead Unit			Lap	Lap	Lap	Pass. Lap 2	Pass. Lap
Frt.						Lap		Lap	Lap	Lap	Frt. Lap 2	Frt. Lap
Pass.						Lap		Lap	Lap	Lap	Pass. Lap 2	Pass. Lap
Frt.							Frt.	Lap 3	Lap	Frt.	Frt. Lap	Frt. Lap 1
Pass.							Pass.	Lap 3	Lap	Pass.	Pass. Lap	Pass. Lap
	Frt.	Lap			Controlled From Lead Unit			Lap	Lap	Lap	Frt. Lap 2	Frt. Lap
	Pass.	Lap			Controlled From Lead Unit			Lap	Lap	Lap	Pass. Lap 2	Pass. Lap
	Frt.	Lap				Lap		Lap	Lap	Lap	Frt. Lap 2	Frt. Lap
	Pass.	Lap				Lap		Lap	Lap	Lap	Pass. Lap 2	Pass. Lap
	Frt.	Lap 1					Frt.	Lap 3	Lap	Frt.	Frt. Lap	Frt. Lap 1
	Pass.	Lap 1					Pass.	Lap 3	Lap	Pass.	Pass. Lap	Pass. Lap
			Frt.		Control Dependent on			Lap 3 4	Lap	Frt. 8	Frt. Lap 8	Frt. Lap 6
			Pass.		Trailing "A" Unit			Lap 3	Lap	Pass. 5	Pass. Lap	Pass. Lap
			Frt.			Frt.		Lap 3 7	Lap	Frt.	Frt. Lap	Frt. Lap
			Pass.			Pass.		Lap 3	Lap	Pass.	Pass. Lap	Pass. Lap
			Frt.				Frt.	Lap 3 7	Lap	Frt.	Frt. Lap	Frt. Lap
			Pass.				Pass.	Lap 3	Lap	Pass.	Pass. Lap	Pass. Lap
				Frt.	Controlled From Lead Unit			Lap	Lap	Lap	Frt. Lap 2	Frt. Lap
				Pass.	Controlled From Lead Unit			Lap	Lap	Lap	Pass. Lap 2	Pass. Lap
				Frt.		Lap		Lap	Lap	Lap	Frt. Lap 2	Frt. Lap
				Pass.		Lap		Lap	Lap	Lap	Pass. Lap 2	Pass. Lap
				Frt. 1			Frt.	Lap 3	Lap	Frt. 1	Frt. Lap	Frt. Lap 1
				Pass.			Pass.	Lap 3	Lap	Pass.	Pass. Lap	Pass. Lap

1 Close No. 35 Cut-out Cock at end of unit.

2 Close No. 35 cut-out cock at rear of preceding unit.

3 Open No. 35 cut-out cock at end of unit.

4 Controlled Emergency available only on Lead Unit.

5 Cock may be placed in Lap if No. 35 pipe cut-out cocks are open to At.

6 By connecting No. 35 pipes between units, Controlled Emergency is available on "A" Unit. Feature can be annulled from Lead Unit.

7 Controlled Emergency not available on Trailing "A" Unit.

8 Controlled Emergency available only on Lead and Trailing "A" Units.

Plate 3 ROTAIR® Valve Position Combinations

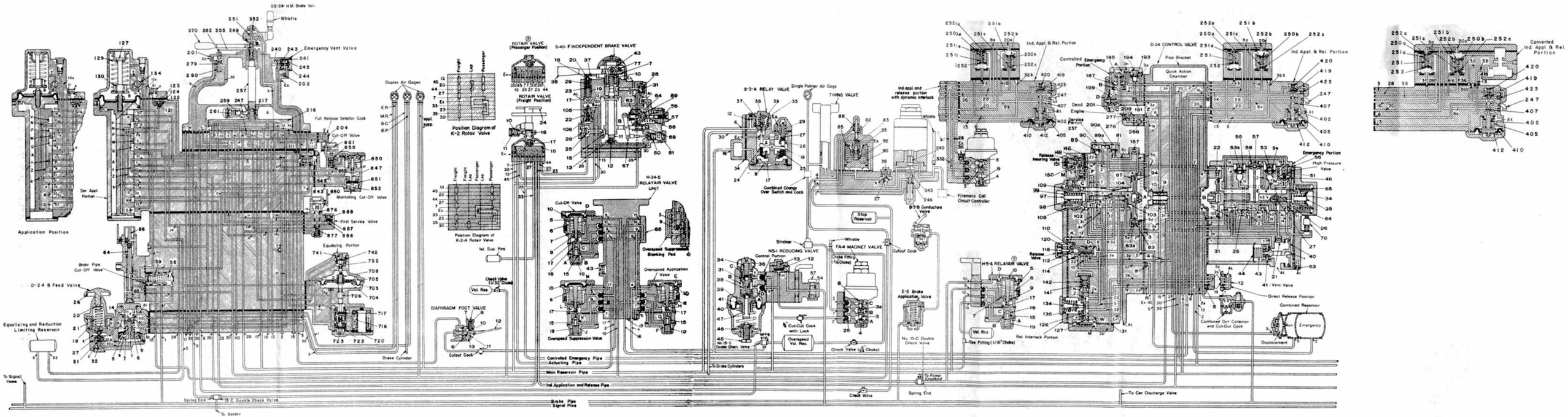


Plate 4 Diagrammatic—24-RL Locomotive Brake Equipment with DS-24-HM Brake Valve and Four-Face RELAYAIR® Valve Unit

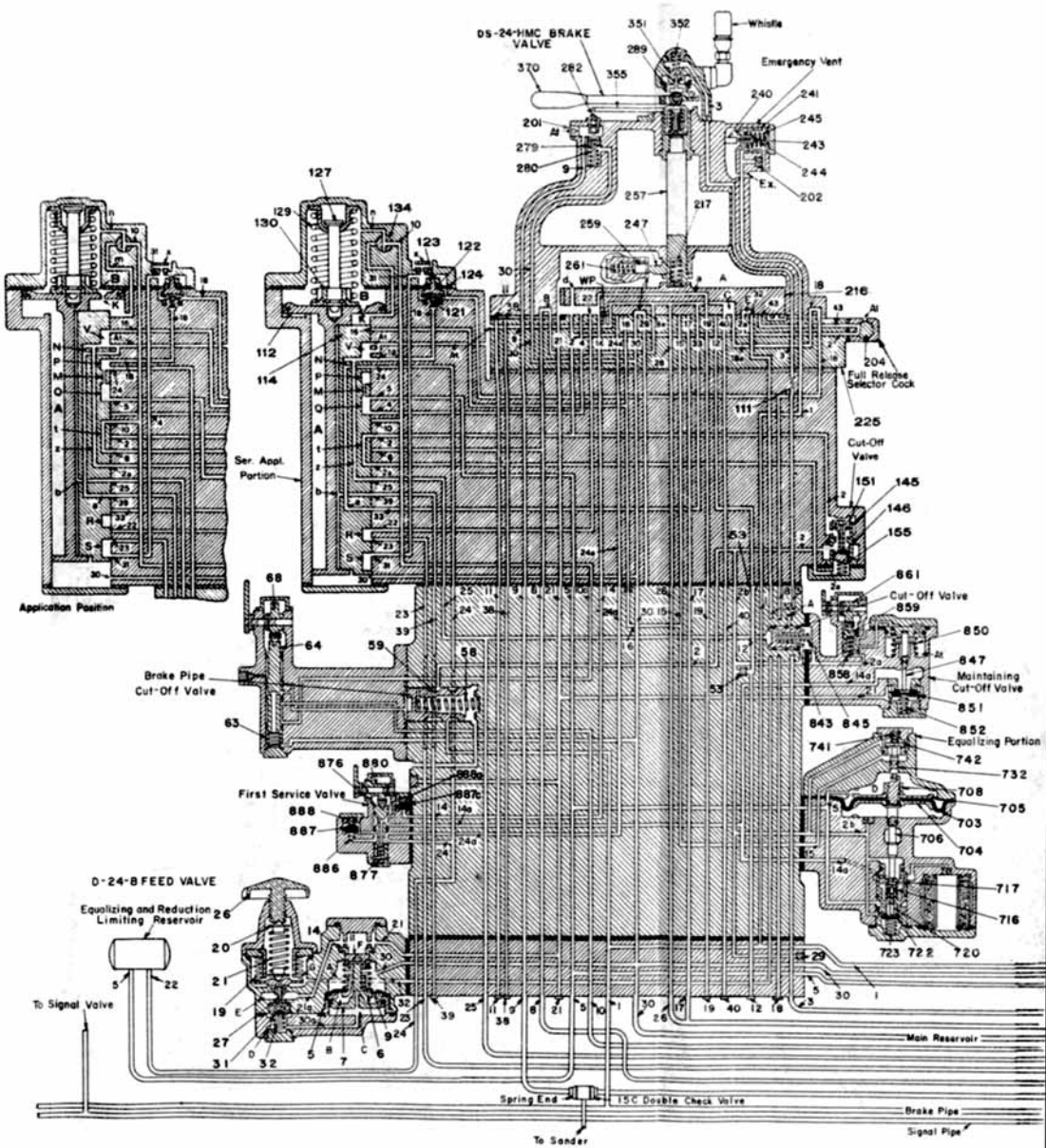


Plate 4A Overlay—DS-24-HMC Brake Valve

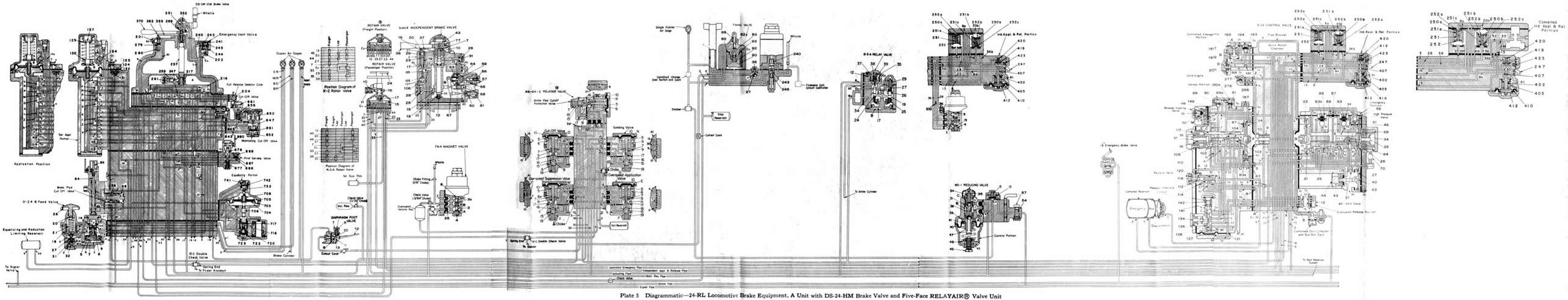


Plate 5 Diagrammatic—24-RL Locomotive Brake Equipment, A Unit with DS-24-HM Brake Valve and Five-Face RELAYAIR® Valve Unit

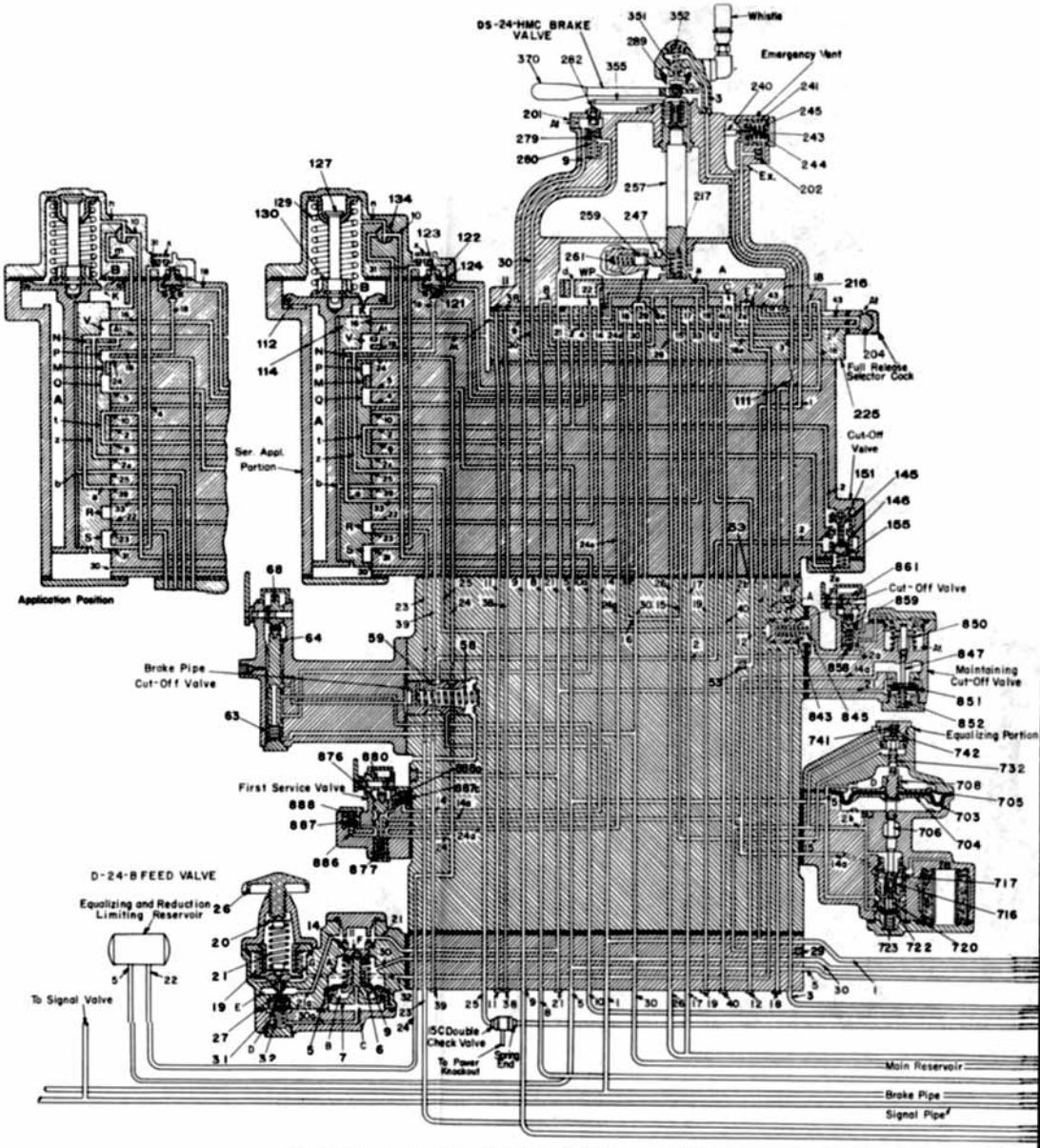


Plate 5A Overlay—DS-24-HMC Brake Valve

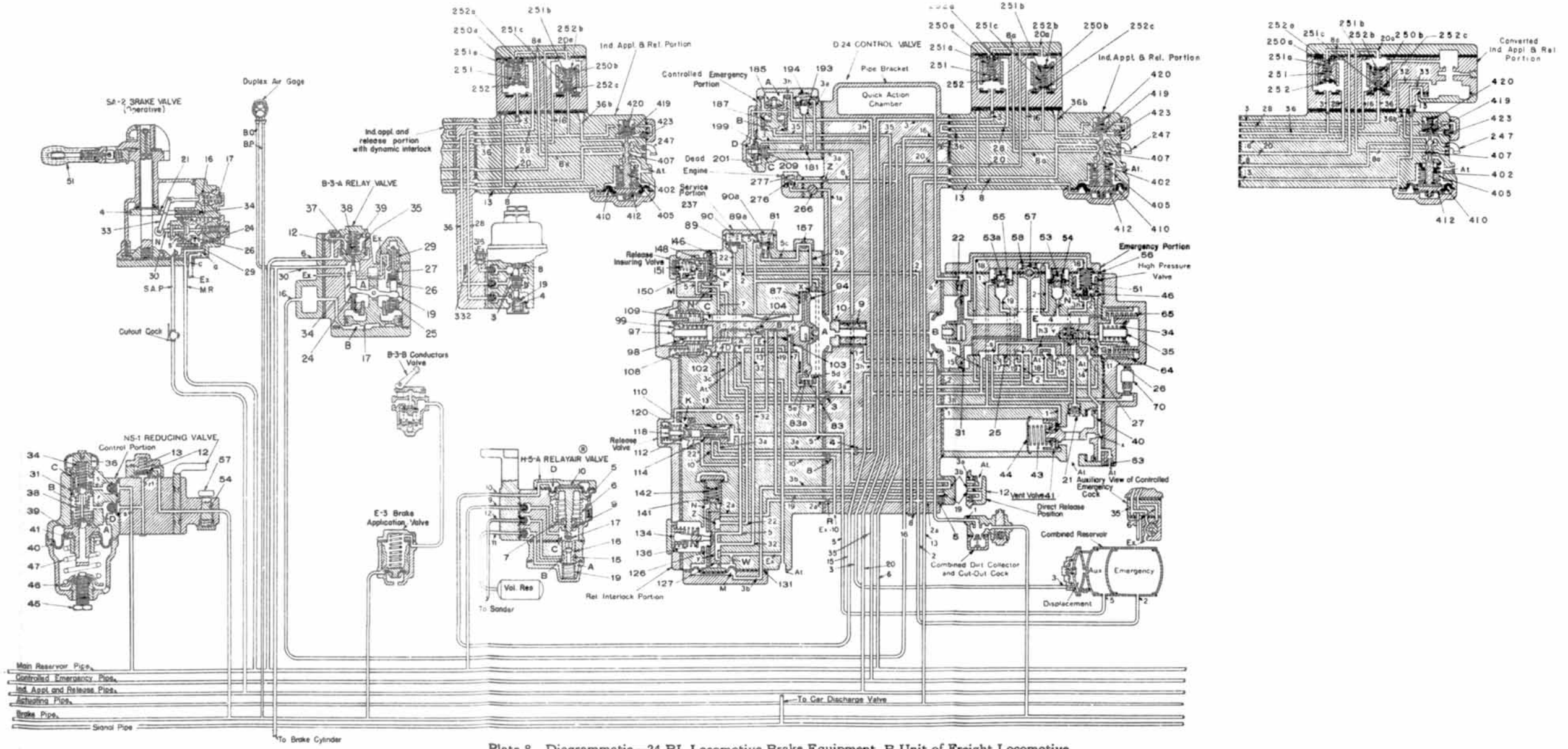


Plate 8 Diagrammatic—24-RL Locomotive Brake Equipment, B Unit of Freight Locomotive.

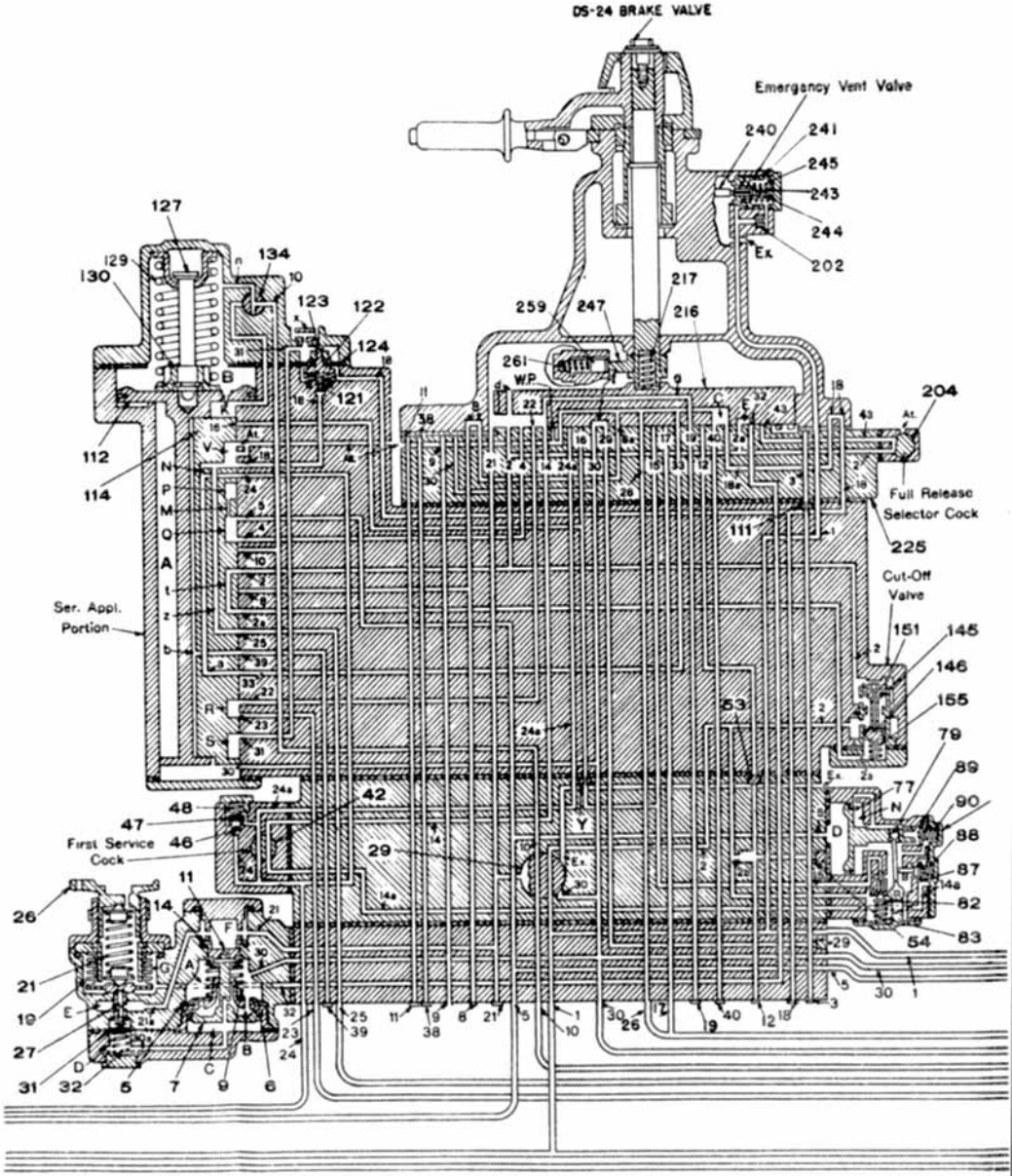


Plate 9 Diagrammatic—Supplemental View of DS-24 Brake Valve for Freight Service