Air Circuits For 12 x 4 or 12 x 6 Vehicles

The 12 x 4 of page 3, has the third pusher axle on an separate relay valve that could be supplied by either primary or secondary. Below are two examples showing how to determine which air circuit should power this axle.

Example #1. If the axle GAWR's are as follows, then this axle should be placed on the primary circuit:

Axle	GAWR	Air Circuit
Steering Axle	18,000 lb.	Secondary
Pusher #1	18.000 lb.	Secondary
Pusher #2	18,000 lb.	Secondary
Pusher #3	18,000 lb.	Undetermined
Drive #1	20,000 lb.	Primary
Drive #2	20,000 lb.	Primary

Summation of GAWR's on the Secondary circuit = 54,000 lb.
Summation of GAWR's on the Primary circuit = 40,000 lb.

If pusher axle #3 was supplied by secondary air, then:
Summation of GAWR's on the Secondary circuit = 72,000 lb.
Summation of GAWR's on the Primary circuit = 40,000 lb.
Difference = 32,000 lb.

If pusher axle #3 was supplied by primary air, then:
Summation of GAWR's on the Secondary circuit = 54,000 lb.
Summation of GAWR's on the Primary circuit = 58,000 lb.
Difference = 4,000 lb.

Therefore; to most nearly equalize the brake power between the two circuits, pusher axle #3 should be placed on the **primary** circuit.

Example #2. If the axle GAWR's are as follows, then this axle should be placed on the secondary circuit:

Axle	GAWR	Air Circuit
Steering Axle	12,000 lb.	Secondary
Pusher #1	12.000 lb.	Secondary
Pusher #2	12,000 lb.	Secondary
Pusher #3	12,000 lb.	Undetermined
Drive #1	20,000 lb.	Primary
Drive #2	20,000 lb.	Primary

Summation of GAWR's on the Secondary circuit = 36,000 lb.
Summation of GAWR's on the Primary circuit = 40,000 lb.

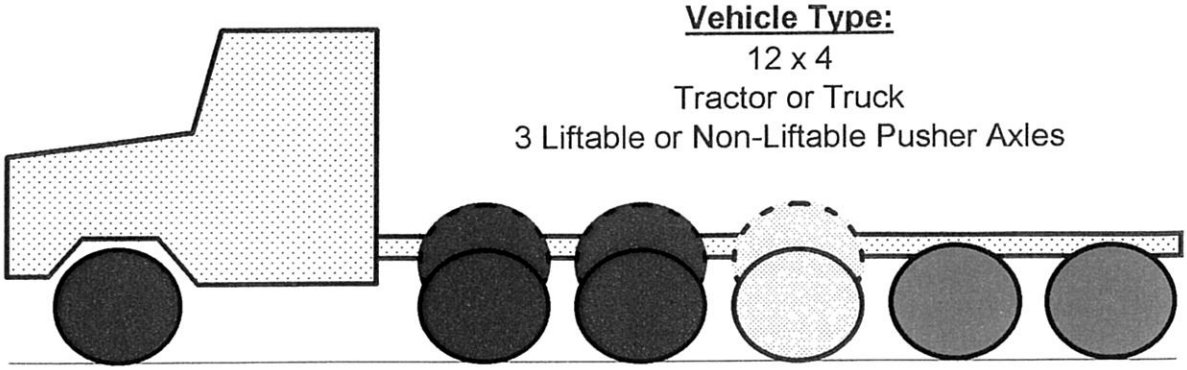
If pusher axle #3 was supplied by secondary air, then:
Summation of GAWR's on the Secondary circuit = 48,000 lb.
Summation of GAWR's on the Primary circuit = 40,000 lb.
Difference =8,000 lb.

If pusher axle #3 was supplied by primary air, then:
Summation of GAWR's on the Secondary circuit = 36,000 lb.
Summation of GAWR's on the Primary circuit = 52,000 lb.
Difference = 16,000 lb.

Therefore; to most nearly equalize the brake power between the two circuits, pusher axle #3 should be placed on the **secondary** circuit.

Design Rules For Valves And ABS

Vehicle Type:
12 x 4
Tractor or Truck
3 Liftable or Non-Liftable Pusher Axles



	Steering		Pusher Axles			Drive Axles	
Std. Valve	Quick Release		Relay-1		Relay-2	Relay-3	
Hold-Off	6 psi sustained		5.5 psi		5.5 psi	5.5 psi	
Circuit	Secondary	**Configuration**	Secondary		Prim or Sec	Primary	
ABS Sensor	Sensed	**#1**	No	No	No	No	Sensed
Modulator	Modulated		No	No	No	Modulated	Modulated
Chamber	24" or Less		Any	Any	Any	Any	Any
Brake	15" x 4"		Any	Any	Any	Any	Any
Suspension	Any		Any	Any	Any	For Suspension Group #1	

	Steering		Pusher Axles			Drive Axles	
Std. Valve	Quick Release		Relay-1		Relay-2	Relay-3	
Hold-Off	6 psi sustained		5.5 psi		5.5 psi	5.5 psi	
Circuit	Secondary	**Configuration**	Secondary		Prim or Sec	Primary	
ABS Sensor	Sensed	**#2**	No	No	No	Sensed	No
Modulator	Modulated		No	No	No	Modulated	Modulated
Chamber	24" or Less		Any	Any	Any	Any	Any
Brake	15" x 4"		Any	Any	Any	Any	Any
Suspension	Any		Any	Any	Any	For Suspension Group #2	

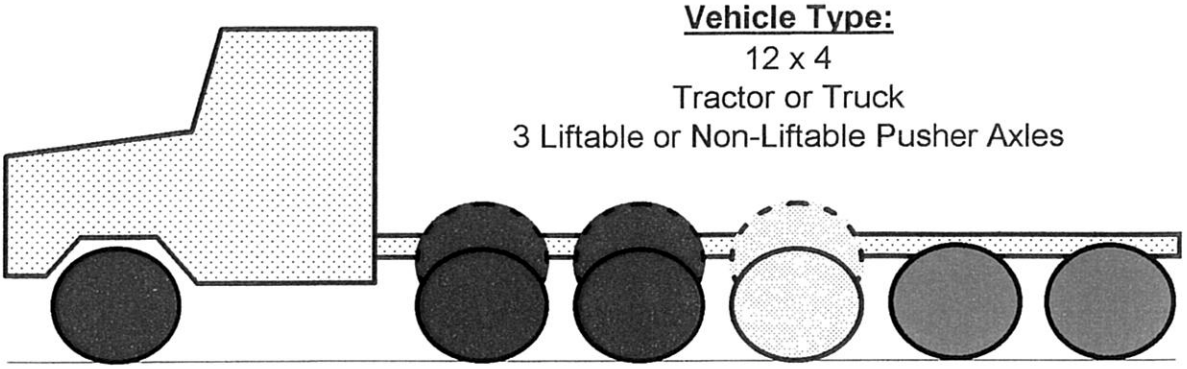
	Steering		Pusher Axles			Drive Axles	
Std. Valve	Quick Release		Relay-1		Relay-2	Relay-3	
Hold-Off	2-4.5 psi sustained		4.0 psi		5.5 or 4.0 psi	5.5 psi	
Circuit	Secondary	**Configuration**	Secondary		Prim or Sec	Primary	
ABS Sensor	Sensed	**#3**	No	No	No	No	Sensed
Modulator	Modulated		No	No	No	Modulated	Modulated
Chamber	24" or Less		Any	Any	Any	Any	Any
Brake	15x5 or Larger		Any	Any	Any	Any	Any
Suspension	Any		Any	Any	Any	For Suspension Group #1	

	Steering		Pusher Axles			Drive Axles	
Std. Valve	Quick Release		Relay-1		Relay-2	Relay-3	
Hold-Off	2-4.5 psi sustained		4.0 psi		5.5 or 4.0 psi	5.5 psi	
Circuit	Secondary	**Configuration**	Secondary		Prim or Sec	Primary	
ABS Sensor	Sensed	**#4**	No	No	No	Sensed	No
Modulator	Modulated		No	No	No	Modulated	Modulated
Chamber	24" or Less		Any	Any	Any	Any	Any
Brake	15x5 or Larger		Any	Any	Any	Any	Any
Suspension	Any		Any	Any	Any	For Suspension Group #2	

Suspension Group #1: FAS-1, Airliner, Neway, Hendrickson, Chalmers
Suspension Group #2: F/L Spring, Reyco Tandem

Design Rules For Valves And ABS

Vehicle Type:
12 x 4
Tractor or Truck
3 Liftable or Non-Liftable Pusher Axles



	Steering		Pusher Axles			Drive Axles	
Opt. Valve	Quick Release		Relay-1		Relay-2	Relay-3	
Hold-Off	0-1 psi		4.0 psi		4.0 psi	4.0 psi	
Circuit	Secondary	**Configuration**	Secondary		Prim or Sec	Primary	
ABS Sensor	Sensed	**#5**	No	No	No	No	Sensed
Modulator	Modulated		No	No	No	Modulated	Modulated
Chamber	24" or Less		Any	Any	Any	Any	Any
Brake	15x5 or Larger		Any	Any	Any	Any	Any
Suspension	Any		Any	Any	Any	For Suspension Group #1	

Opt. Valve	Quick Release		Relay-1		Relay-2	Relay-3	
Hold-Off	0-1 psi		4.0 psi		4.0 psi	4.0 psi	
Circuit	Secondary	**Configuration**	Secondary		Prim or Sec	Primary	
ABS Sensor	Sensed	**#6**	No	No	No	Sensed	No
Modulator	Modulated		No	No	No	Modulated	Modulated
Chamber	24" or Less		Any	Any	Any	Any	Any
Brake	15x5 or Larger		Any	Any	Any	Any	Any
Suspension	Any		Any	Any	Any	For Suspension Group #2	

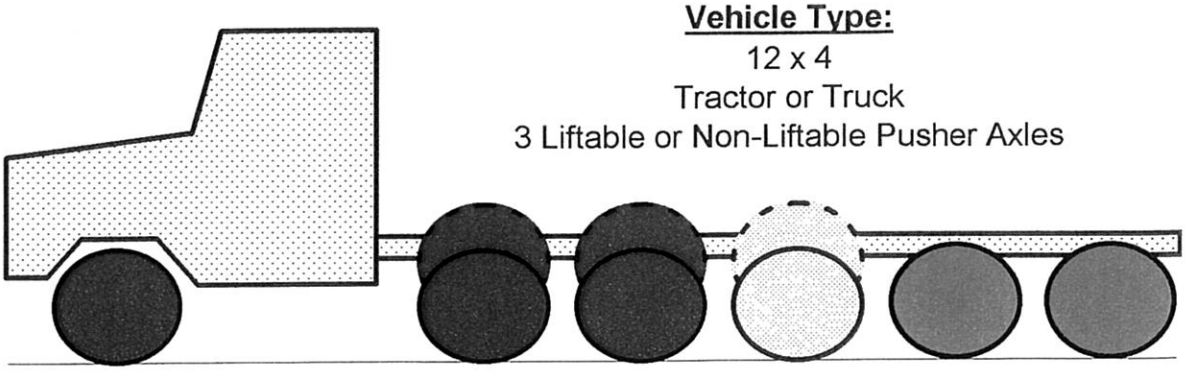
Opt. Valve	Quick Release		Relay-1		Relay-2	Relay-3	
Hold-Off	2 - 4.5 psi		4.0 psi		4.0 psi	4.0 psi	
Circuit	Secondary	**Configuration**	Secondary		Prim or Sec	Primary	
ABS Sensor	Sensed	**#7**	No	No	No	No	Sensed
Modulator	Modulated		No	No	No	Modulated	Modulated
Chamber	24" or Less		Any	Any	Any	Any	Any
Brake	15" x 4"		Any	Any	Any	Any	Any
Suspension	Any		Any	Any	Any	For Suspension Group #1	

Opt. Valve	Quick Release		Relay-1		Relay-2	Relay-3	
Hold-Off	2 - 4.5 psi		4.0 psi		4.0 psi	4.0 psi	
Circuit	Secondary	**Configuration**	Secondary		Prim or Sec	Primary	
ABS Sensor	Sensed	**#8**	No	No	No	Sensed	No
Modulator	Modulated		No	No	No	Modulated	Modulated
Chamber	24" or Less		Any	Any	Any	Any	Any
Brake	15" x 4"		Any	Any	Any	Any	Any
Suspension	Any		Any	Any	Any	For Suspension Group #2	

Suspension Group #1: FAS-1, Airliner, Neway, Hendrickson, Chalmers
Suspension Group #2: F/L Spring, Reyco Tandem

Design Rules For Valves And ABS

Vehicle Type:
12 x 4
Tractor or Truck
3 Liftable or Non-Liftable Pusher Axles



	Steering		Pusher Axles			Drive Axles	
Opt. Valve Hold-Off Circuit	Relay-1 5.5 psi Secondary	**Configuration**	Relay-2 5.5 psi Secondary		Relay-3 5.5 psi Prim or Sec	Relay-4 5.5 psi Primary	
ABS Sensor	Sensed	**#9**	No	No	No	No	Sensed
Modulator	Modulated		No	No	No	Modulated	Modulated
Chamber	25" or More		Any	Any	Any	Any	Any
Brake	15" x 4"		Any	Any	Any	Any	Any
Suspension	Any		Any	Any	Any	For Suspension Group #1	

Opt. Valve Hold-Off Circuit	Relay-1 5.5 psi Secondary	**Configuration**	Relay-2 5.5 psi Secondary		Relay-3 5.5 psi Prim or Sec	Relay-4 5.5 psi Primary	
ABS Sensor	Sensed	**#10**	No	No	No	Sensed	No
Modulator	Modulated		No	No	No	Modulated	Modulated
Chamber	25" or More		Any	Any	Any	Any	Any
Brake	15" x 4"		Any	Any	Any	Any	Any
Suspension	Any		Any	Any	Any	For Suspension Group #2	

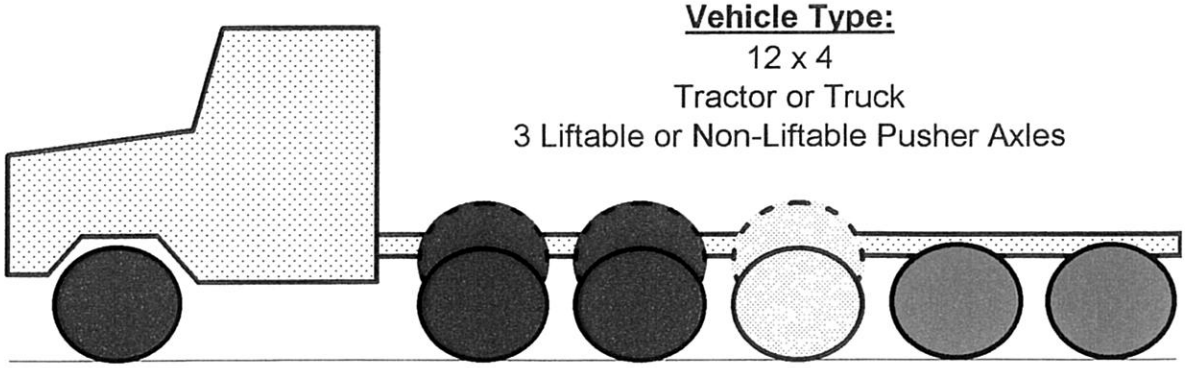
Opt. Valve Hold-Off Circuit	Relay-1 4.0 psi Secondary	**Configuration**	Relay-2 4.0 psi Secondary		Relay-3 4.0 psi Prim or Sec	Relay-4 4.0 psi Primary	
ABS Sensor	Sensed	**#11**	No	No	No	No	Sensed
Modulator	Modulated		No	No	No	Modulated	Modulated
Chamber	25" or More		Any	Any	Any	Any	Any
Brake	15" x 4"		Any	Any	Any	Any	Any
Suspension	Any		Any	Any	Any	For Suspension Group #1	

Opt. Valve Hold-Off Circuit	Relay-1 4.0 psi Secondary	**Configuration**	Relay-2 4.0 psi Secondary		Relay-3 4.0 psi Prim or Sec	Relay-4 4.0 psi Primary	
ABS Sensor	Sensed	**#12**	No	No	No	Sensed	No
Modulator	Modulated		No	No	No	Modulated	Modulated
Chamber	25" or More		Any	Any	Any	Any	Any
Brake	15" x 4"		Any	Any	Any	Any	Any
Suspension	Any		Any	Any	Any	For Suspension Group #2	

Suspension Group #1: FAS-1, Airliner, Neway, Hendrickson, Chalmers
Suspension Group #2: F/L Spring, Reyco Tandem

Design Rules For Valves And ABS

Vehicle Type:
12 x 4
Tractor or Truck
3 Liftable or Non-Liftable Pusher Axles



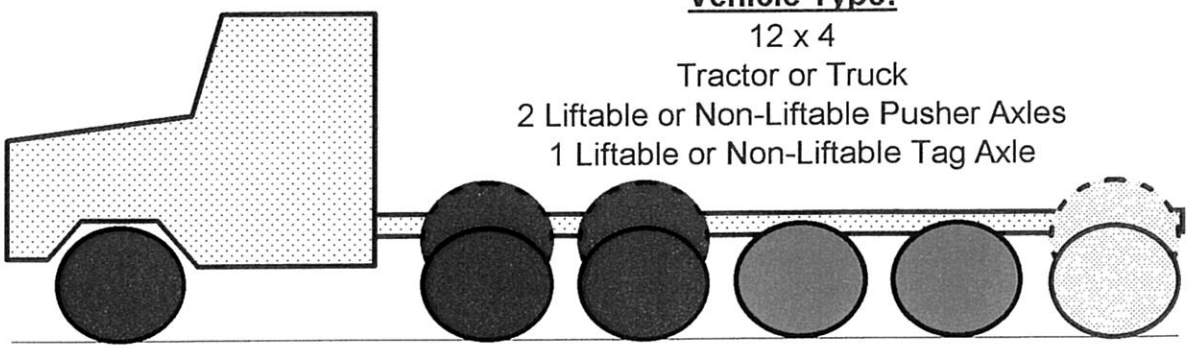
	Steering		Pusher Axles			Drive Axles	
Opt. Valve	Relay-1		Relay-2		Relay-3	Relay-4	
Hold-Off	4.0 psi		4.0 psi		5.5 or 4.0 psi	5.5 psi	
Circuit	Secondary	**Configuration**	Secondary		Prim or Sec	Primary	
ABS Sensor	Sensed	**#13**	No	No	No	No	Sensed
Modulator	Modulated		No	No	No	Modulated	Modulated
Chamber	25" or More		Any	Any	Any	Any	Any
Brake	15x5 or Larger		Any	Any	Any	Any	Any
Suspension	Any		Any	Any	Any	For Suspension Group #1	

Opt. Valve	Relay-1		Relay-2		Relay-3	Relay-4	
Hold-Off	4.0 psi		4.0 psi		5.5 or 4.0 psi	5.5 psi	
Circuit	Secondary	**Configuration**	Secondary		Prim or Sec	Primary	
ABS Sensor	Sensed	**#14**	No	No	No	Sensed	No
Modulator	Modulated		No	No	No	Modulated	Modulated
Chamber	25" or More		Any	Any	Any	Any	Any
Brake	15x5 or Larger		Any	Any	Any	Any	Any
Suspension	Any		Any	Any	Any	For Suspension Group #2	

Suspension Group #1: FAS-1, Airliner, Neway, Hendrickson, Chalmers
Suspension Group #2: F/L Spring, Reyco Tandem

Design Rules For Valves And ABS

Vehicle Type:
12 x 4
Tractor or Truck
2 Liftable or Non-Liftable Pusher Axles
1 Liftable or Non-Liftable Tag Axle



	Steering		Pusher Axles		Drive Axles		Tag Axle
Std. Valve	Quick Release		Relay-1		Relay-2		Relay-3
Hold-Off	6 psi sustained		5.5 psi		5.5 psi		5.5 psi
Circuit	Secondary	**Configuration**	Secondary		Primary		Prim or Sec
ABS Sensor	Sensed	**#1**	No	No	No	Sensed	No
Modulator	Modulated		No	No	Modulated	Modulated	No
Chamber	24" or Less		Any	Any	Any	Any	Any
Brake	15" x 4"		Any	Any	Any	Any	Any
Suspension	Any		Any	Any	For Suspension Group #1		Any

Std. Valve	Quick Release		Relay-1		Relay-2		Relay-3
Hold-Off	6 psi sustained		5.5 psi		5.5 psi		5.5 psi
Circuit	Secondary	**Configuration**	Secondary		Primary		Prim or Sec
ABS Sensor	Sensed	**#2**	No	No	Sensed	No	No
Modulator	Modulated		No	No	Modulated	Modulated	No
Chamber	24" or Less		Any	Any	Any	Any	Any
Brake	15" x 4"		Any	Any	Any	Any	Any
Suspension	Any		Any	Any	For Suspension Group #2		Any

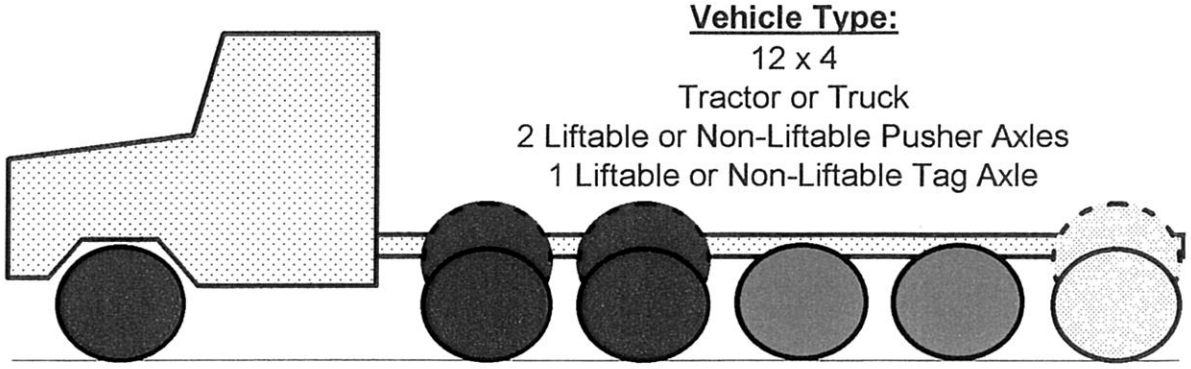
Std. Valve	Quick Release		Relay-1		Relay-2		Relay-3
Hold-Off	2-4.5 psi sustained		4.0 psi		5.5 psi		5.5 or 4.0 psi
Circuit	Secondary	**Configuration**	Secondary		Primary		Prim or Sec
ABS Sensor	Sensed	**#3**	No	No	No	Sensed	No
Modulator	Modulated		No	No	Modulated	Modulated	No
Chamber	24" or Less		Any	Any	Any	Any	Any
Brake	15x5 or Larger		Any	Any	Any	Any	Any
Suspension	Any		Any	Any	For Suspension Group #1		Any

Std. Valve	Quick Release		Relay-1		Relay-2		Relay-3
Hold-Off	2-4.5 psi sustained		4.0 psi		5.5 psi		5.5 or 4.0 psi
Circuit	Secondary	**Configuration**	Secondary		Primary		Prim or Sec
ABS Sensor	Sensed	**#4**	No	No	Sensed	No	No
Modulator	Modulated		No	No	Modulated	Modulated	No
Chamber	24" or Less		Any	Any	Any	Any	Any
Brake	15x5 or Larger		Any	Any	Any	Any	Any
Suspension	Any		Any	Any	For Suspension Group #2		Any

Suspension Group #1: FAS-1, Airliner, Neway, Hendrickson, Chalmers
Suspension Group #2: F/L Spring, Reyco Tandem

Design Rules For Valves And ABS

Vehicle Type:
12 x 4
Tractor or Truck
2 Liftable or Non-Liftable Pusher Axles
1 Liftable or Non-Liftable Tag Axle



	Steering		Pusher Axles		Drive Axles		Tag Axle
Opt. Valve	Quick Release		Relay-1		Relay-2		Relay-3
Hold-Off	0-1 psi		4.0 psi		4.0 psi		4.0 psi
Circuit	Secondary	**Configuration**	Secondary		Primary		Prim or Sec
ABS Sensor	Sensed	**#5**	No	No	No	Sensed	No
Modulator	Modulated		No	No	Modulated	Modulated	No
Chamber	24" or Less		Any	Any	Any	Any	Any
Brake	15x5 or Larger		Any	Any	Any	Any	Any
Suspension	Any		Any	Any	For Suspension Group #1		Any

Opt. Valve	Quick Release		Relay-1		Relay-2		Relay-3
Hold-Off	0-1 psi		4.0 psi		4.0 psi		4.0 psi
Circuit	Secondary	**Configuration**	Secondary		Primary		Prim or Sec
ABS Sensor	Sensed	**#6**	No	No	Sensed	No	No
Modulator	Modulated		No	No	Modulated	Modulated	No
Chamber	24" or Less		Any	Any	Any	Any	Any
Brake	15x5 or Larger		Any	Any	Any	Any	Any
Suspension	Any		Any	Any	For Suspension Group #2		Any

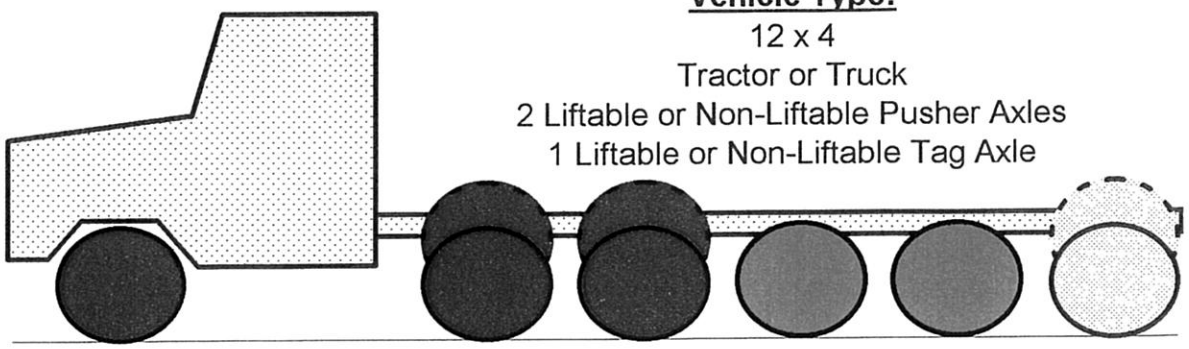
Opt. Valve	Quick Release		Relay-1		Relay-2		Relay-3
Hold-Off	2 - 4.5 psi		4.0 psi		4.0 psi		4.0 psi
Circuit	Secondary	**Configuration**	Secondary		Primary		Prim or Sec
ABS Sensor	Sensed	**#7**	No	No	No	Sensed	No
Modulator	Modulated		No	No	Modulated	Modulated	No
Chamber	24" or Less		Any	Any	Any	Any	Any
Brake	15" x 4"		Any	Any	Any	Any	Any
Suspension	Any		Any	Any	For Suspension Group #1		Any

Opt. Valve	Quick Release		Relay-1		Relay-2		Relay-3
Hold-Off	2 - 4.5 psi		4.0 psi		4.0 psi		4.0 psi
Circuit	Secondary	**Configuration**	Secondary		Primary		Prim or Sec
ABS Sensor	Sensed	**#8**	No	No	Sensed	No	No
Modulator	Modulated		No	No	Modulated	Modulated	No
Chamber	24" or Less		Any	Any	Any	Any	Any
Brake	15" x 4"		Any	Any	Any	Any	Any
Suspension	Any		Any	Any	For Suspension Group #2		Any

Suspension Group #1: FAS-1, Airliner, Neway, Hendrickson, Chalmers
Suspension Group #2: F/L Spring, Reyco Tandem

Design Rules For Valves And ABS

Vehicle Type:
12 x 4
Tractor or Truck
2 Liftable or Non-Liftable Pusher Axles
1 Liftable or Non-Liftable Tag Axle



	Steering		Pusher Axles		Drive Axles		Tag Axle
Opt. Valve Hold-Off Circuit	Relay-1 5.5 psi Secondary	Configuration	Relay-2 5.5 psi Secondary		Relay-3 5.5 psi Primary		Relay-4 5.5 psi Prim or Sec
ABS Sensor	Sensed	#9	No	No	No	Sensed	No
Modulator	Modulated		No	No	Modulated	Modulated	No
Chamber	25" or More		Any	Any	Any	Any	Any
Brake	15" x 4"		Any	Any	Any	Any	Any
Suspension	Any		Any	Any	For Suspension Group #1		Any

Opt. Valve Hold-Off Circuit	Relay-1 5.5 psi Secondary	Configuration	Relay-2 5.5 psi Secondary		Relay-3 5.5 psi Primary		Relay-4 5.5 psi Prim or Sec
ABS Sensor	Sensed	#10	No	No	Sensed	No	No
Modulator	Modulated		No	No	Modulated	Modulated	No
Chamber	25" or More		Any	Any	Any	Any	Any
Brake	15" x 4"		Any	Any	Any	Any	Any
Suspension	Any		Any	Any	For Suspension Group #2		Any

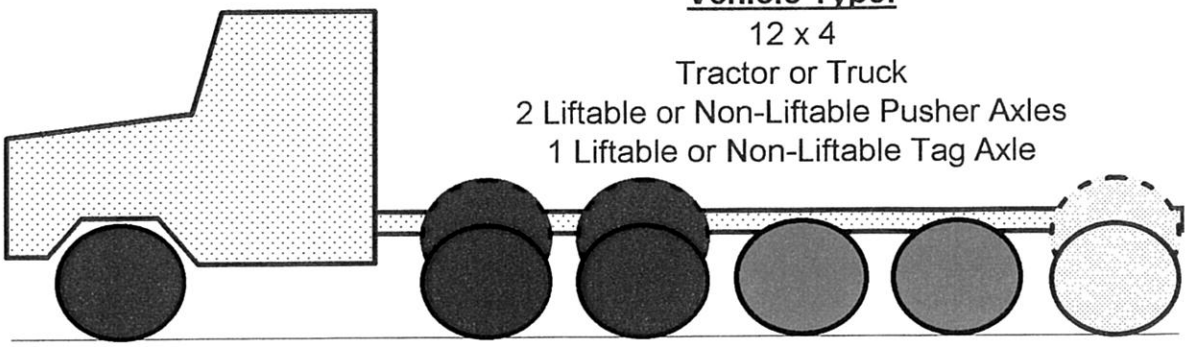
Opt. Valve Hold-Off Circuit	Relay-1 4.0 psi Secondary	Configuration	Relay-2 4.0 psi Secondary		Relay-3 4.0 psi Primary		Relay-4 4.0 psi Prim or Sec
ABS Sensor	Sensed	#11	No	No	No	Sensed	No
Modulator	Modulated		No	No	Modulated	Modulated	No
Chamber	25" or More		Any	Any	Any	Any	Any
Brake	15" x 4"		Any	Any	Any	Any	Any
Suspension	Any		Any	Any	For Suspension Group #1		Any

Opt. Valve Hold-Off Circuit	Relay-1 4.0 psi Secondary	Configuration	Relay-2 4.0 psi Secondary		Relay-3 4.0 psi Primary		Relay-4 4.0 psi Prim or Sec
ABS Sensor	Sensed	#12	No	No	Sensed	No	No
Modulator	Modulated		No	No	Modulated	Modulated	No
Chamber	25" or More		Any	Any	Any	Any	Any
Brake	15" x 4"		Any	Any	Any	Any	Any
Suspension	Any		Any	Any	For Suspension Group #2		Any

Suspension Group #1: FAS-1, Airliner, Neway, Hendrickson, Chalmers
Suspension Group #2: F/L Spring, Reyco Tandem

Design Rules For Valves And ABS

Vehicle Type:
12 x 4
Tractor or Truck
2 Liftable or Non-Liftable Pusher Axles
1 Liftable or Non-Liftable Tag Axle



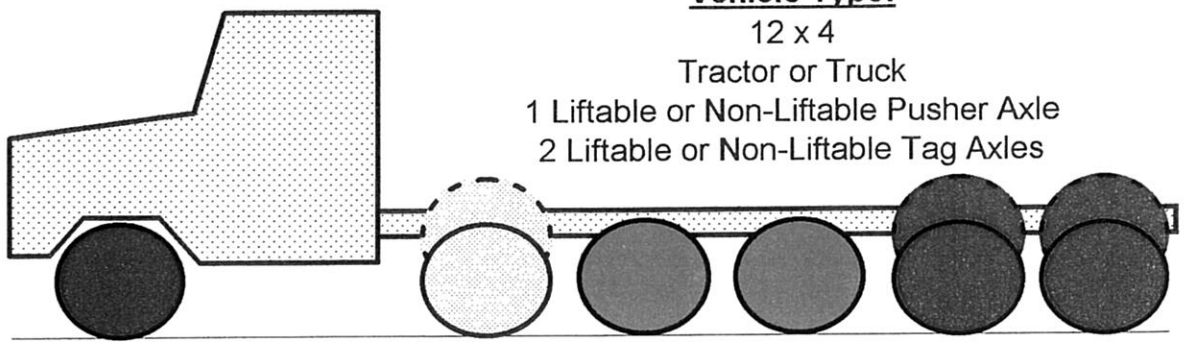
	Steering		Pusher Axles		Drive Axles		Tag Axle
Opt. Valve Hold-Off Circuit	Relay-1 4.0 psi Secondary	**Configuration #13**	Relay-2 4.0 psi Secondary		Relay-3 5.5 psi Primary		Relay-4 4.0 psi Prim or Sec
ABS Sensor	Sensed		No	No	No	Sensed	No
Modulator	Modulated		No	No	Modulated	Modulated	No
Chamber	25" or More		Any	Any	Any	Any	Any
Brake	15x5 or Larger		Any	Any	Any	Any	Any
Suspension	Any		Any	Any	For Suspension Group #1		Any

	Steering		Pusher Axles		Drive Axles		Tag Axle
Opt. Valve Hold-Off Circuit	Relay-1 4.0 psi Secondary	**Configuration #14**	Relay-2 4.0 psi Secondary		Relay-3 5.5 psi Primary		Relay-4 4.0 psi Prim or Sec
ABS Sensor	Sensed		No	No	Sensed	No	No
Modulator	Modulated		No	No	Modulated	Modulated	No
Chamber	25" or More		Any	Any	Any	Any	Any
Brake	15x5 or Larger		Any	Any	Any	Any	Any
Suspension	Any		Any	Any	For Suspension Group #2		Any

Suspension Group #1: FAS-1, Airliner, Neway, Hendrickson, Chalmers
Suspension Group #2: F/L Spring, Reyco Tandem

Design Rules For Valves And ABS

Vehicle Type:
12 x 4
Tractor or Truck
1 Liftable or Non-Liftable Pusher Axle
2 Liftable or Non-Liftable Tag Axles



	Steering		Pusher	Drive Axles		Tag Axles	
Std. Valve	Quick Release		Relay-1	Relay-2		Relay-3	
Hold-Off	6 psi sustained		5.5 psi	5.5 psi		5.5 psi	
Circuit	Secondary	**Configuration**	Prim or Sec	Primary		Secondary	
ABS Sensor	Sensed	**#1**	No	No	Sensed	No	No
Modulator	Modulated		No	Modulated	Modulated	No	No
Chamber	24" or Less		Any	Any	Any	Any	Any
Brake	15" x 4"		Any	Any	Any	Any	Any
Suspension	Any		Any	For Suspension Group #1		Any	Any

	Steering		Pusher	Drive Axles		Tag Axles	
Std. Valve	Quick Release		Relay-1	Relay-2		Relay-3	
Hold-Off	6 psi sustained		5.5 psi	5.5 psi		5.5 psi	
Circuit	Secondary	**Configuration**	Prim or Sec	Primary		Secondary	
ABS Sensor	Sensed	**#2**	No	Sensed	No	No	No
Modulator	Modulated		No	Modulated	Modulated	No	No
Chamber	24" or Less		Any	Any	Any	Any	Any
Brake	15" x 4"		Any	Any	Any	Any	Any
Suspension	Any		Any	For Suspension Group #2		Any	Any

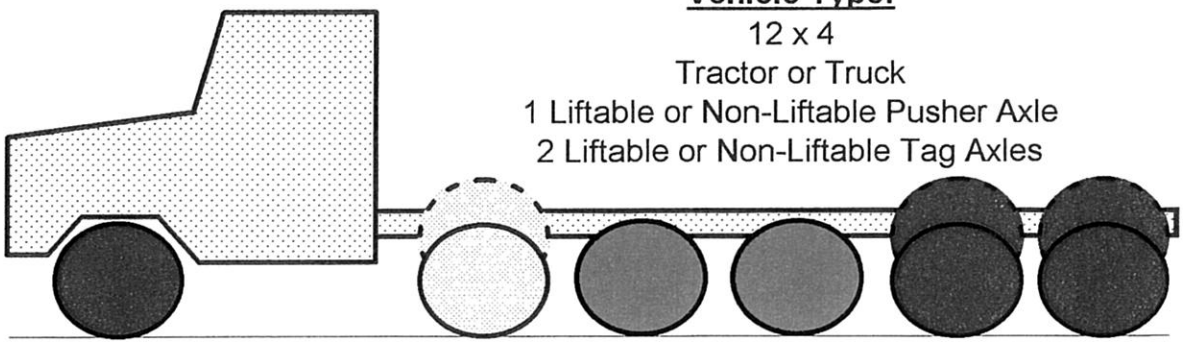
	Steering		Pusher	Drive Axles		Tag Axles	
Std. Valve	Quick Release		Relay-1	Relay-2		Relay-3	
Hold-Off	2-4.5 psi sustained		5.5 or 4.0 psi	5.5 psi		4.0 psi	
Circuit	Secondary	**Configuration**	Prim or Sec	Primary		Secondary	
ABS Sensor	Sensed	**#3**	No	No	Sensed	No	No
Modulator	Modulated		No	Modulated	Modulated	No	No
Chamber	24" or Less		Any	Any	Any	Any	Any
Brake	15x5 or Larger		Any	Any	Any	Any	Any
Suspension	Any		Any	For Suspension Group #1		Any	Any

	Steering		Pusher	Drive Axles		Tag Axles	
Std. Valve	Quick Release		Relay-1	Relay-2		Relay-3	
Hold-Off	2-4.5 psi sustained		5.5 or 4.0 psi	5.5 psi		4.0 psi	
Circuit	Secondary	**Configuration**	Prim or Sec	Primary		Secondary	
ABS Sensor	Sensed	**#4**	No	Sensed	No	No	No
Modulator	Modulated		No	Modulated	Modulated	No	No
Chamber	24" or Less		Any	Any	Any	Any	Any
Brake	15x5 or Larger		Any	Any	Any	Any	Any
Suspension	Any		Any	For Suspension Group #2		Any	Any

Suspension Group #1: FAS-1, Airliner, Neway, Hendrickson, Chalmers
Suspension Group #2: F/L Spring, Reyco Tandem

Design Rules For Valves And ABS

Vehicle Type:
12 x 4
Tractor or Truck
1 Liftable or Non-Liftable Pusher Axle
2 Liftable or Non-Liftable Tag Axles



	Steering		Pusher	Drive Axles		Tag Axles	
Opt. Valve	Quick Release		Relay-1	Relay-2		Relay-3	
Hold-Off	0-1 psi		4.0 psi	4.0 psi		4.0 psi	
Circuit	Secondary	**Configuration**	Prim or Sec	Primary		Secondary	
ABS Sensor	Sensed	**#5**	No	No	Sensed	No	No
Modulator	Modulated		No	Modulated	Modulated	No	No
Chamber	24" or Less		Any	Any	Any	Any	Any
Brake	15x5 or Larger		Any	Any	Any	Any	Any
Suspension	Any		Any	For Suspension Group #1		Any	Any

Opt. Valve	Quick Release		Relay-1	Relay-2		Relay-3	
Hold-Off	0-1 psi		4.0 psi	4.0 psi		4.0 psi	
Circuit	Secondary	**Configuration**	Prim or Sec	Primary		Secondary	
ABS Sensor	Sensed	**#6**	No	Sensed	No	No	No
Modulator	Modulated		No	Modulated	Modulated	No	No
Chamber	24" or Less		Any	Any	Any	Any	Any
Brake	15x5 or Larger		Any	Any	Any	Any	Any
Suspension	Any		Any	For Suspension Group #2		Any	Any

Opt. Valve	Quick Release		Relay-1	Relay-2		Relay-3	
Hold-Off	2 - 4.5 psi		4.0 psi	4.0 psi		4.0 psi	
Circuit	Secondary	**Configuration**	Prim or Sec	Primary		Secondary	
ABS Sensor	Sensed	**#7**	No	No	Sensed	No	No
Modulator	Modulated		No	Modulated	Modulated	No	No
Chamber	24" or Less		Any	Any	Any	Any	Any
Brake	15" x 4"		Any	Any	Any	Any	Any
Suspension	Any		Any	For Suspension Group #1		Any	Any

Opt. Valve	Quick Release		Relay-1	Relay-2		Relay-3	
Hold-Off	2 - 4.5 psi		4.0 psi	4.0 psi		4.0 psi	
Circuit	Secondary	**Configuration**	Prim or Sec	Primary		Secondary	
ABS Sensor	Sensed	**#8**	No	Sensed	No	No	No
Modulator	Modulated		No	Modulated	Modulated	No	No
Chamber	24" or Less		Any	Any	Any	Any	Any
Brake	15" x 4"		Any	Any	Any	Any	Any
Suspension	Any		Any	For Suspension Group #2		Any	Any

Suspension Group #1: FAS-1, Airliner, Neway, Hendrickson, Chalmers
Suspension Group #2: F/L Spring, Reyco Tandem

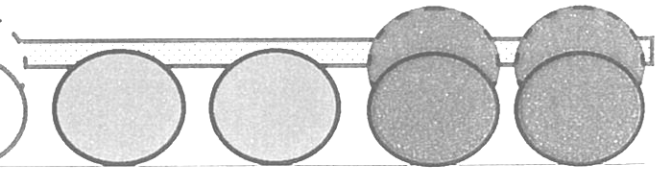
Vehicle Type:

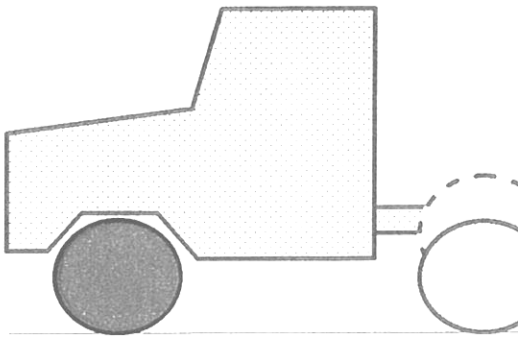
12 x 4

Tractor or Truck

1 Liftable or Non-Liftable Pusher Axle

2 Liftable or Non-Liftable Tag Axles





	Drive Axles		Tag Axles	
	Relay-3 5.5 psi Primary		Relay-4 5.5 psi Secondary	
	No Modulated	Sensed Modulated	No	No
	Any	Any	Any	Any
	Any	Any	Any	Any
	For Suspension Group #1		Any	Any

	Steering		Pushe
Opt. Valve Hold-Off Circuit	Relay-1 5.5 psi Secondary	Configuration	Relay-2 5.5 psi Prim or S
ABS Sensor Modulator	Sensed Modulated	#9	No No
Chamber Brake Suspension	25" or More 15" x 4" Any		Any Any Any

	Drive Axles		Tag Axles	
	Relay-3 5.5 psi Primary		Relay-4 5.5 psi Secondary	
	Sensed Modulated	No Modulated	No	No
	Any	Any	Any	Any
	Any	Any	Any	Any
	For Suspension Group #2		Any	Any

	Steering		Relay-2
Opt. Valve Hold-Off Circuit	Relay-1 5.5 psi Secondary	Configuration	5.5 psi Prim or S
ABS Sensor Modulator	Sensed Modulated	#10	No No
Chamber Brake Suspension	25" or More 15" x 4" Any		Any Any Any

Opt. Valve Hold-Off Circuit	Relay-1 4.0 psi Secondary	**Configuration**	Relay-2 4.0 psi Prim or Sec	Relay-3 5.5 psi Primary		Relay-4 4.0 psi Secondary	
ABS Sensor Modulator	Sensed Modulated	**#11**	No No	No Modulated	Sensed Modulated	No No	No No
Chamber Brake Suspension	25" or More 15" x 4" Any		Any Any Any	Any Any For Suspension Group #1	Any Any	Any Any Any	Any Any Any

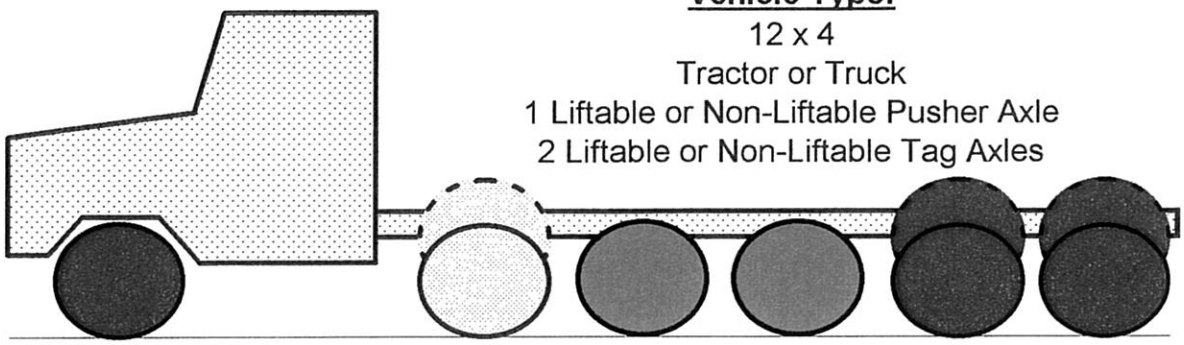
Opt. Valve Hold-Off Circuit	Relay-1 4.0 psi Secondary	**Configuration**	Relay-2 4.0 psi Prim or Sec	Relay-3 5.5 psi Primary		Relay-4 4.0 psi Secondary	
ABS Sensor Modulator	Sensed Modulated	**#12**	No No	Sensed Modulated	No Modulated	No No	No No
Chamber Brake Suspension	25" or More 15" x 4" Any		Any Any Any	Any Any For Suspension Group #2	Any Any	Any Any Any	Any Any Any

Suspension Group #1: FAS-1, Airliner, Neway, Hendrickson, Chalmers

Suspension Group #2: F/L Spring, Reyco Tandem

Design Rules For Valves And ABS

Vehicle Type:
12 x 4
Tractor or Truck
1 Liftable or Non-Liftable Pusher Axle
2 Liftable or Non-Liftable Tag Axles



	Steering		Pusher	Drive Axles		Tag Axles	
Opt. Valve	Relay-1		Relay-2	Relay-3		Relay-4	
Hold-Off	4.0 psi		5.5 or 4.0 psi	5.5 psi		4.0 psi	
Circuit	Secondary	**Configuration**	Prim or Sec	Primary		Secondary	
ABS Sensor	Sensed	**#13**	No	No	Sensed	No	No
Modulator	Modulated		No	Modulated	Modulated	No	No
Chamber	25" or More		Any	Any	Any	Any	Any
Brake	15x5 or Larger		Any	Any	Any	Any	Any
Suspension	Any		Any	For Suspension Group #1		Any	Any

Opt. Valve	Relay-1		Relay-2	Relay-3		Relay-4	
Hold-Off	4.0 psi		5.5 or 4.0 psi	5.5 psi		4.0 psi	
Circuit	Secondary	**Configuration**	Prim or Sec	Primary		Secondary	
ABS Sensor	Sensed	**#14**	No	Sensed	No	No	No
Modulator	Modulated		No	Modulated	Modulated	No	No
Chamber	25" or More		Any	Any	Any	Any	Any
Brake	15x5 or Larger		Any	Any	Any	Any	Any
Suspension	Any		Any	For Suspension Group #2		Any	Any

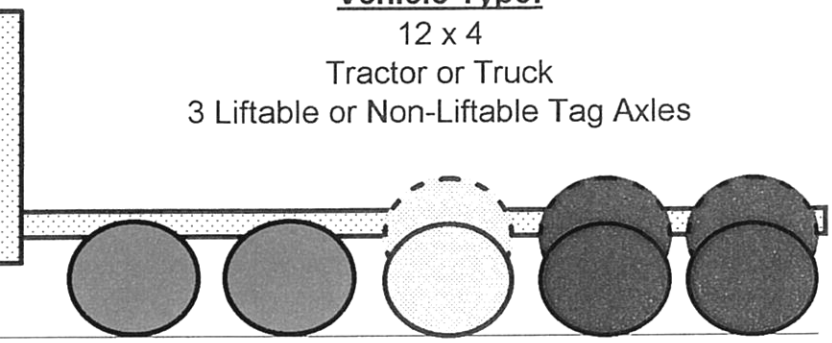
Suspension Group #1: FAS-1, Airliner, Neway, Hendrickson, Chalmers
Suspension Group #2: F/L Spring, Reyco Tandem

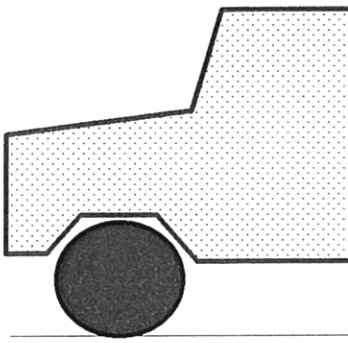
Vehicle Type:

12 x 4

Tractor or Truck

3 Liftable or Non-Liftable Tag Axles





	Drive Axles		Tag Axles		
on	Relay-1 5.5 psi Primary		Relay-2 5.5 psi Prim or Sec	Relay-3 5.5 psi Secondary	
	No Modulated	Sensed Modulated	No No	No No	No No
	Any Any	Any Any	Any Any	Any Any	Any Any
	For Suspension Group #1		Any	Any	Any

	Steering	
Std. Valve	Quick Release	
Hold-Off	6 psi sustained	
Circuit	Secondary	**Configurati**
ABS Sensor	Sensed	**#1**
Modulator	Modulated	
Chamber	24" or Less	
Brake	15" x 4"	
Suspension	Any	

	Relay-1	Relay-2	Relay-3				
Std. Valve	Quick Release						
Hold-Off	6 psi sustained			5.5 psi		5.5 psi	5.5 psi
Circuit	Secondary	**Configuration**		Primary		Prim or Sec	Secondary
ABS Sensor	Sensed	**#2**		Sensed	No	No	No	No
Modulator	Modulated			Modulated	Modulated	No	No	No
Chamber	24" or Less			Any	Any	Any	Any	Any
Brake	15" x 4"			Any	Any	Any	Any	Any
Suspension	Any			For Suspension Group #2		Any	Any	Any

Std. Valve	Quick Release			Relay-1		Relay-2	Relay-3
Hold-Off	2-4.5 psi sustained			5.5 psi		5.5 or 4.0 psi	4.0 psi
Circuit	Secondary	**Configuration**		Primary		Prim or Sec	Secondary
ABS Sensor	Sensed	**#3**		No	Sensed	No	No	No
Modulator	Modulated			Modulated	Modulated	No	No	No
Chamber	24" or Less			Any	Any	Any	Any	Any
Brake	15x5 or Larger			Any	Any	Any	Any	Any
Suspension	Any			For Suspension Group #1		Any	Any	Any

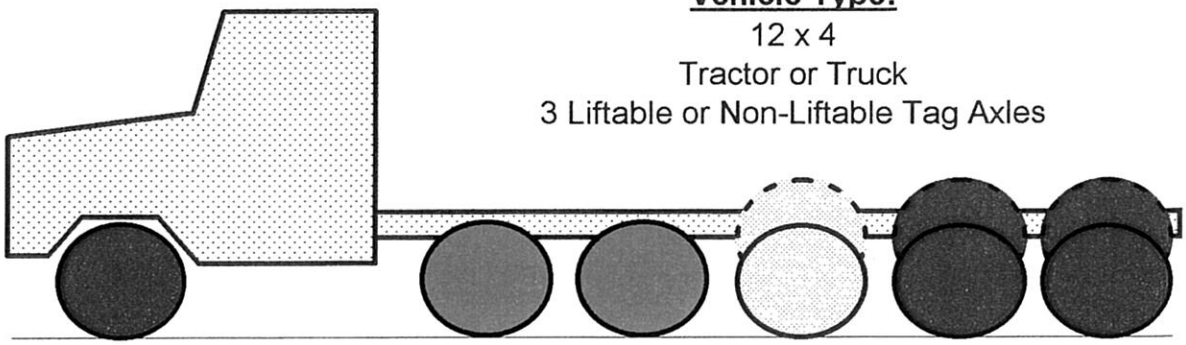
Std. Valve	Quick Release			Relay-1		Relay-2	Relay-3
Hold-Off	2-4.5 psi sustained			5.5 psi		5.5 or 4.0 psi	4.0 psi
Circuit	Secondary	**Configuration**		Primary		Prim or Sec	Secondary
ABS Sensor	Sensed	**#4**		Sensed	No	No	No	No
Modulator	Modulated			Modulated	Modulated	No	No	No
Chamber	24" or Less			Any	Any	Any	Any	Any
Brake	15x5 or Larger			Any	Any	Any	Any	Any
Suspension	Any			For Suspension Group #2		Any	Any	Any

Suspension Group #1: FAS-1, Airliner, Neway, Hendrickson, Chalmers

Suspension Group #2: F/L Spring, Reyco Tandem

Design Rules For Valves And ABS

Vehicle Type:
12 x 4
Tractor or Truck
3 Liftable or Non-Liftable Tag Axles



	Steering		Drive Axles		Tag Axles		
Opt. Valve	Quick Release		Relay-1		Relay-2	Relay-3	
Hold-Off	0-1 psi		4.0 psi		4.0 psi	4.0 psi	
Circuit	Secondary	**Configuration**	Primary		Prim or Sec	Secondary	
ABS Sensor	Sensed	**#5**	No	Sensed	No	No	No
Modulator	Modulated		Modulated	Modulated	No	No	No
Chamber	24" or Less		Any	Any	Any	Any	Any
Brake	15x5 or Larger		Any	Any	Any	Any	Any
Suspension	Any		For Suspension Group #1		Any	Any	Any

Opt. Valve	Quick Release		Relay-1		Relay-2	Relay-3	
Hold-Off	0-1 psi		4.0 psi		4.0 psi	4.0 psi	
Circuit	Secondary	**Configuration**	Primary		Prim or Sec	Secondary	
ABS Sensor	Sensed	**#6**	Sensed	No	No	No	No
Modulator	Modulated		Modulated	Modulated	No	No	No
Chamber	24" or Less		Any	Any	Any	Any	Any
Brake	15x5 or Larger		Any	Any	Any	Any	Any
Suspension	Any		For Suspension Group #2		Any	Any	Any

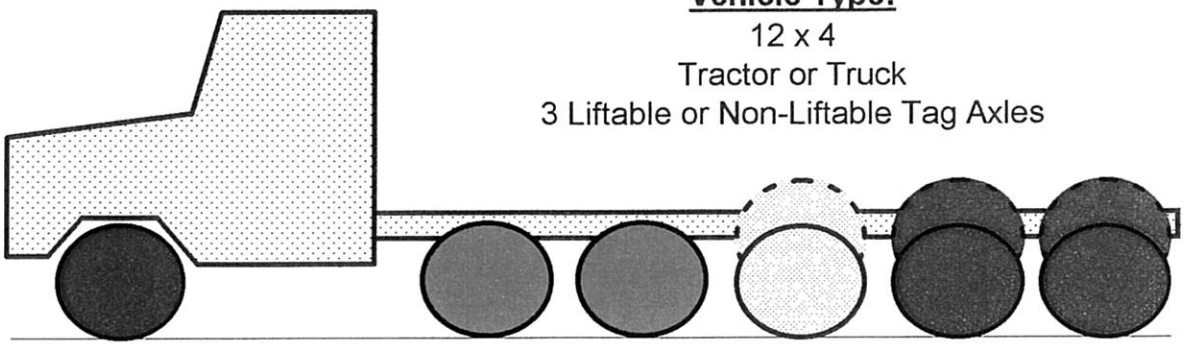
Opt. Valve	Quick Release		Relay-1		Relay-2	Relay-3	
Hold-Off	2 - 4.5 psi		4.0 psi		4.0 psi	4.0 psi	
Circuit	Secondary	**Configuration**	Primary		Prim or Sec	Secondary	
ABS Sensor	Sensed	**#7**	No	Sensed	No	No	No
Modulator	Modulated		Modulated	Modulated	No	No	No
Chamber	24" or Less		Any	Any	Any	Any	Any
Brake	15" x 4"		Any	Any	Any	Any	Any
Suspension	Any		For Suspension Group #1		Any	Any	Any

Opt. Valve	Quick Release		Relay-1		Relay-2	Relay-3	
Hold-Off	2 - 4.5 psi		4.0 psi		4.0 psi	4.0 psi	
Circuit	Secondary	**Configuration**	Primary		Prim or Sec	Secondary	
ABS Sensor	Sensed	**#8**	Sensed	No	No	No	No
Modulator	Modulated		Modulated	Modulated	No	No	No
Chamber	24" or Less		Any	Any	Any	Any	Any
Brake	15" x 4"		Any	Any	Any	Any	Any
Suspension	Any		For Suspension Group #2		Any	Any	Any

Suspension Group #1: FAS-1, Airliner, Neway, Hendrickson, Chalmers
Suspension Group #2: F/L Spring, Reyco Tandem

Design Rules For Valves And ABS

Vehicle Type:
12 x 4
Tractor or Truck
3 Liftable or Non-Liftable Tag Axles



	Steering		Drive Axles		Tag Axles		
Opt. Valve Hold-Off Circuit	Relay-1 5.5 psi Secondary	**Configuration**	Relay-2 5.5 psi Primary		Relay-3 5.5 psi Prim or Sec	Relay-4 5.5 psi Secondary	
ABS Sensor	Sensed	**#9**	No	Sensed	No	No	No
Modulator	Modulated		Modulated	Modulated	No	No	No
Chamber	25" or More		Any	Any	Any	Any	Any
Brake	15" x 4"		Any	Any	Any	Any	Any
Suspension	Any		For Suspension Group #1		Any	Any	Any

Opt. Valve Hold-Off Circuit	Relay-1 5.5 psi Secondary	**Configuration**	Relay-2 5.5 psi Primary		Relay-3 5.5 psi Prim or Sec	Relay-4 5.5 psi Secondary	
ABS Sensor	Sensed	**#10**	Sensed	No	No	No	No
Modulator	Modulated		Modulated	Modulated	No	No	No
Chamber	25" or More		Any	Any	Any	Any	Any
Brake	15" x 4"		Any	Any	Any	Any	Any
Suspension	Any		For Suspension Group #2		Any	Any	Any

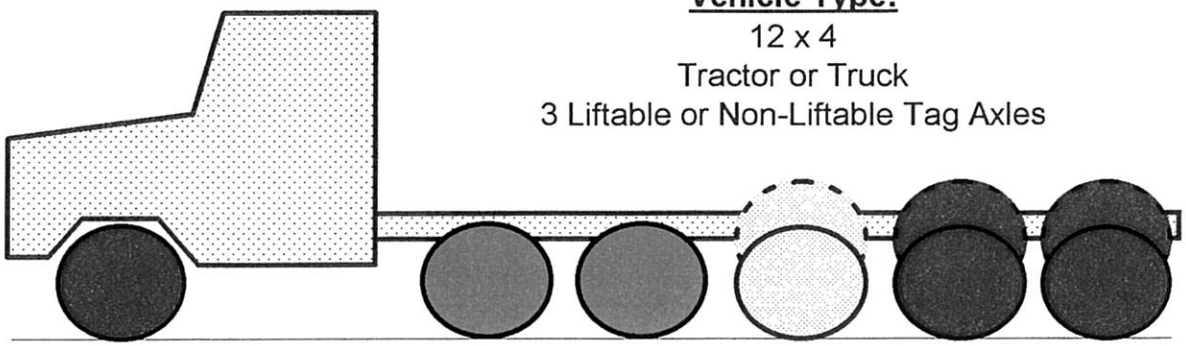
Opt. Valve Hold-Off Circuit	Relay-1 4.0 psi Secondary	**Configuration**	Relay-2 5.5 psi Primary		Relay-3 4.0 psi Prim or Sec	Relay-4 4.0 psi Secondary	
ABS Sensor	Sensed	**#11**	No	Sensed	No	No	No
Modulator	Modulated		Modulated	Modulated	No	No	No
Chamber	25" or More		Any	Any	Any	Any	Any
Brake	15" x 4"		Any	Any	Any	Any	Any
Suspension	Any		For Suspension Group #1		Any	Any	Any

Opt. Valve Hold-Off Circuit	Relay-1 4.0 psi Secondary	**Configuration**	Relay-2 5.5 psi Primary		Relay-3 4.0 psi Prim or Sec	Relay-4 4.0 psi Secondary	
ABS Sensor	Sensed	**#12**	Sensed	No	No	No	No
Modulator	Modulated		Modulated	Modulated	No	No	No
Chamber	25" or More		Any	Any	Any	Any	Any
Brake	15" x 4"		Any	Any	Any	Any	Any
Suspension	Any		For Suspension Group #2		Any	Any	Any

Suspension Group #1: FAS-1, Airliner, Neway, Hendrickson, Chalmers
Suspension Group #2: F/L Spring, Reyco Tandem

Design Rules For Valves And ABS

Vehicle Type:
12 x 4
Tractor or Truck
3 Liftable or Non-Liftable Tag Axles

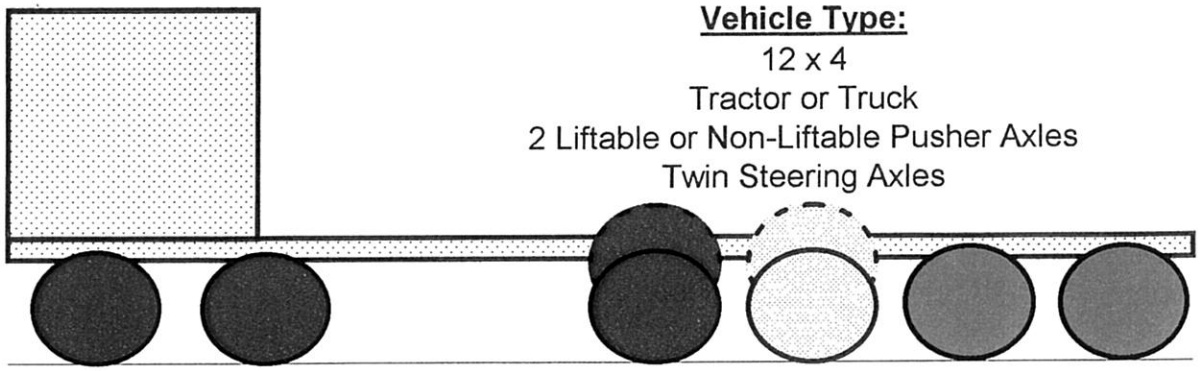


	Steering		Drive Axles		Tag Axles		
Opt. Valve	Relay-1		Relay-2		Relay-3	Relay-4	
Hold-Off	4.0 psi		5.5 psi		5.5 or 4.0 psi	4.0 psi	
Circuit	Secondary	**Configuration**	Primary		Prim or Sec	Secondary	
ABS Sensor	Sensed	**#13**	No	Sensed	No	No	No
Modulator	Modulated		Modulated	Modulated	No	No	No
Chamber	25" or More		Any	Any	Any	Any	Any
Brake	15x5 or Larger		Any	Any	Any	Any	Any
Suspension	Any		For Suspension Group #1		Any	Any	Any

	Steering		Drive Axles		Tag Axles		
Opt. Valve	Relay-1		Relay-2		Relay-3	Relay-4	
Hold-Off	4.0 psi		5.5 psi		5.5 or 4.0 psi	4.0 psi	
Circuit	Secondary	**Configuration**	Primary		Prim or Sec	Secondary	
ABS Sensor	Sensed	**#14**	Sensed	No	No	No	No
Modulator	Modulated		Modulated	Modulated	No	No	No
Chamber	25" or More		Any	Any	Any	Any	Any
Brake	15x5 or Larger		Any	Any	Any	Any	Any
Suspension	Any		For Suspension Group #2		Any	Any	Any

Suspension Group #1: FAS-1, Airliner, Neway, Hendrickson, Chalmers
Suspension Group #2: F/L Spring, Reyco Tandem

Design Rules For Valves And ABS



Vehicle Type:
12 x 4
Tractor or Truck
2 Liftable or Non-Liftable Pusher Axles
Twin Steering Axles

	Steering			Pusher Axles		Drive Axles	
Std. Valve	Relay-1			Relay-2	Relay-2 or 3	Relay-4	
Hold-Off	5.5 psi			5.5 psi	5.5 psi	5.5 psi	
Circuit	Secondary		**Configuration**	Secondary	Sec or Prim	Primary	
ABS Sensor	Sensed	No	**#1**	No	No	No	Sensed
Modulator	Modulated	No		No	No	Modulated	Modulated
Chamber	Any	Any		Any	Any	Any	Any
Brake	15" x 4"	15" x 4"		Any	Any	Any	Any
Suspension	Any	Any		Any	Any	For Suspension Group #1	

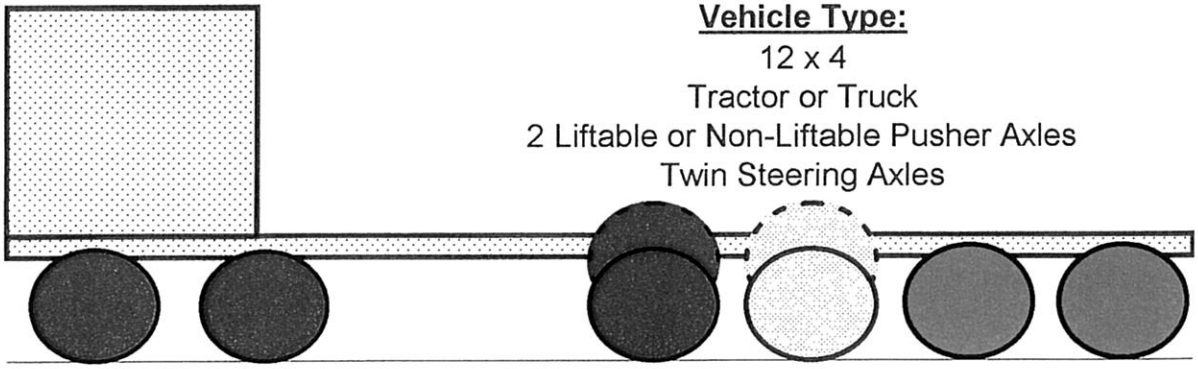
	Steering			Pusher Axles		Drive Axles	
Std. Valve	Relay-1			Relay-2	Relay-2 or 3	Relay-4	
Hold-Off	5.5 psi			5.5 psi	5.5 psi	5.5 psi	
Circuit	Secondary		**Configuration**	Secondary	Sec or Prim	Primary	
ABS Sensor	Sensed	No	**#2**	No	No	Sensed	No
Modulator	Modulated	No		No	No	Modulated	Modulated
Chamber	Any	Any		Any	Any	Any	Any
Brake	15" x 4"	15" x 4"		Any	Any	Any	Any
Suspension	Any	Any		Any	Any	For Suspension Group #2	

	Steering			Pusher Axles		Drive Axles	
Std. Valve	Relay-1			Relay-2	Relay-2 or 3	Relay-4	
Hold-Off	4.0 psi			4.0 psi	4.0 or 5.5 psi	5.5 psi	
Circuit	Secondary		**Configuration**	Secondary	Sec or Prim	Primary	
ABS Sensor	Sensed	No	**#3**	No	No	No	Sensed
Modulator	Modulated	No		No	No	Modulated	Modulated
Chamber	Any	Any		Any	Any	Any	Any
Brake	15x5 or Larger	15x5 or Larger		Any	Any	Any	Any
Suspension	Any	Any		Any	Any	For Suspension Group #1	

	Steering			Pusher Axles		Drive Axles	
Std. Valve	Relay-1			Relay-2	Relay-2 or 3	Relay-4	
Hold-Off	4.0 psi			4.0 psi	4.0 or 5.5 psi	5.5 psi	
Circuit	Secondary		**Configuration**	Secondary	Sec or Prim	Primary	
ABS Sensor	Sensed	No	**#4**	No	No	Sensed	No
Modulator	Modulated	No		No	No	Modulated	Modulated
Chamber	Any	Any		Any	Any	Any	Any
Brake	15x5 or Larger	15x5 or Larger		Any	Any	Any	Any
Suspension	Any	Any		Any	Any	For Suspension Group #2	

Suspension Group #1: FAS-1, Airliner, Neway, Hendrickson, Chalmers
Suspension Group #2: F/L Spring, Reyco Tandem

Design Rules For Valves And ABS



Vehicle Type:
12 x 4
Tractor or Truck
2 Liftable or Non-Liftable Pusher Axles
Twin Steering Axles

	Steering			Pusher Axles		Drive Axles	
Opt. Valve Hold-Off Circuit	Relay-1 4.0 psi Secondary		**Configuration**	Relay-2 4.0 psi Secondary	Relay-2 or 3 4.0 psi Sec or Prim	Relay-4 4.0 psi Primary	
ABS Sensor	Sensed	No	**#5**	No	No	No	Sensed
Modulator	Modulated	No		No	No	Modulated	Modulated
Chamber	Any	Any		Any	Any	Any	Any
Brake	15" x 4"	15" x 4"		Any	Any	Any	Any
Suspension	Any	Any		Any	Any	For Suspension Group #1	

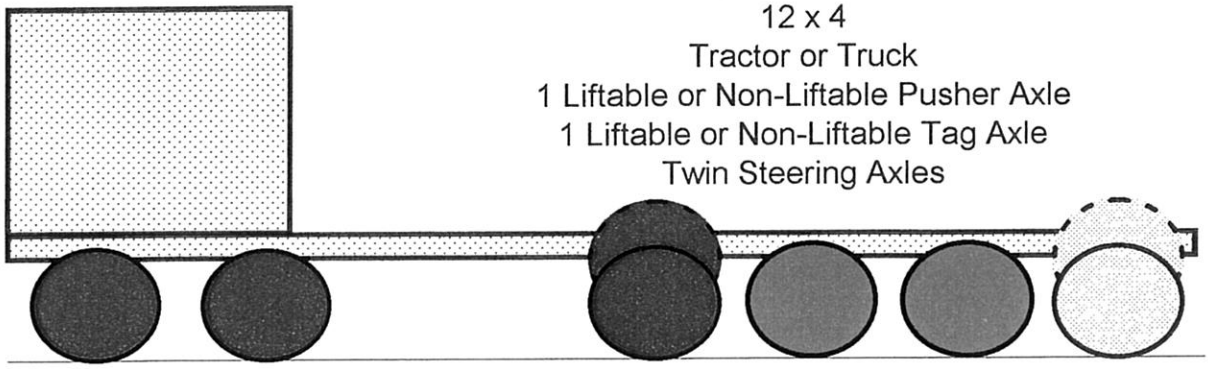
	Steering			Pusher Axles		Drive Axles	
Opt. Valve Hold-Off Circuit	Relay-1 4.0 psi Secondary		**Configuration**	Relay-2 4.0 psi Secondary	Relay-2 or 3 4.0 psi Sec or Prim	Relay-4 4.0 psi Primary	
ABS Sensor	Sensed	No	**#6**	No	No	Sensed	No
Modulator	Modulated	No		No	No	Modulated	Modulated
Chamber	Any	Any		Any	Any	Any	Any
Brake	15" x 4"	15" x 4"		Any	Any	Any	Any
Suspension	Any	Any		Any	Any	For Suspension Group #2	

Suspension Group #1: FAS-1, Airliner, Neway, Hendrickson, Chalmers
Suspension Group #2: F/L Spring, Reyco Tandem

Design Rules For Valves And ABS

Vehicle Type:

12 x 4
Tractor or Truck
1 Liftable or Non-Liftable Pusher Axle
1 Liftable or Non-Liftable Tag Axle
Twin Steering Axles



	Steering			Pusher	Drive Axles		Tag Axle
Std. Valve	Relay-1			Relay-2	Relay-3		Relay-4 or 5
Hold-Off	5.5 psi			5.5 psi	5.5 psi		5.5 psi
Circuit	Secondary		**Configuration**	Secondary	Primary		Sec or Prim
ABS Sensor	Sensed	No	**#1**	No	No	Sensed	No
Modulator	Modulated	No		No	Modulated	Modulated	No
Chamber	Any	Any		Any	Any	Any	Any
Brake	15" x 4"	15" x 4"		Any	Any	Any	Any
Suspension	Any	Any		Any	For Suspension Group #1		Any

	Steering			Pusher	Drive Axles		Tag Axle
Std. Valve	Relay-1			Relay-2	Relay-3		Relay-4 or 5
Hold-Off	5.5 psi			5.5 psi	5.5 psi		5.5 psi
Circuit	Secondary		**Configuration**	Secondary	Primary		Sec or Prim
ABS Sensor	Sensed	No	**#2**	No	Sensed	No	No
Modulator	Modulated	No		No	Modulated	Modulated	No
Chamber	Any	Any		Any	Any	Any	Any
Brake	15" x 4"	15" x 4"		Any	Any	Any	Any
Suspension	Any	Any		Any	For Suspension Group #2		Any

	Steering			Pusher	Drive Axles		Tag Axle
Std. Valve	Relay-1			Relay-2	Relay-3		Relay-4 or 5
Hold-Off	4.0 psi			4.0 psi	5.5 psi		4.0 or 5.5
Circuit	Secondary		**Configuration**	Secondary	Primary		Sec or Prim
ABS Sensor	Sensed	No	**#3**	No	No	Sensed	No
Modulator	Modulated	No		No	Modulated	Modulated	No
Chamber	Any	Any		Any	Any	Any	Any
Brake	15x5 or Larger	15x5 or Larger		Any	Any	Any	Any
Suspension	Any	Any		Any	For Suspension Group #1		Any

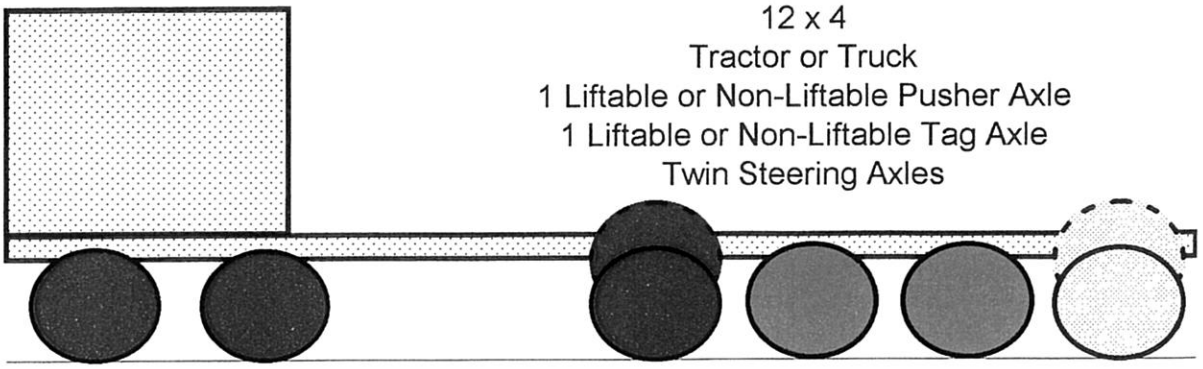
	Steering			Pusher	Drive Axles		Tag Axle
Std. Valve	Relay-1			Relay-2	Relay-3		Relay-4 or 5
Hold-Off	4.0 psi			4.0 psi	5.5 psi		4.0 or 5.5
Circuit	Secondary		**Configuration**	Secondary	Primary		Sec or Prim
ABS Sensor	Sensed	No	**#4**	No	Sensed	No	No
Modulator	Modulated	No		No	Modulated	Modulated	No
Chamber	Any	Any		Any	Any	Any	Any
Brake	15x5 or Larger	15x5 or Larger		Any	Any	Any	Any
Suspension	Any	Any		Any	For Suspension Group #2		Any

Suspension Group #1: FAS-1, Airliner, Neway, Hendrickson, Chalmers
Suspension Group #2: F/L Spring, Reyco Tandem

Design Rules For Valves And ABS

Vehicle Type:

12 x 4
Tractor or Truck
1 Liftable or Non-Liftable Pusher Axle
1 Liftable or Non-Liftable Tag Axle
Twin Steering Axles



	Steering			Pusher	Drive Axles		Tag Axle
Opt. Valve	Relay-1			Relay-2	Relay-3		Relay-4 or 5
Hold-Off	4.0 psi			4.0 psi	4.0 psi		4.0 psi
Circuit	Secondary		**Configuration**	Secondary	Primary		Sec or Prim
ABS Sensor	Sensed	No	**#5**	No	No	Sensed	No
Modulator	Modulated	No		No	Modulated	Modulated	No
Chamber	Any	Any		Any	Any	Any	Any
Brake	15" x 4"	15" x 4"		Any	Any	Any	Any
Suspension	Any	Any		Any	For Suspension Group #1		Any

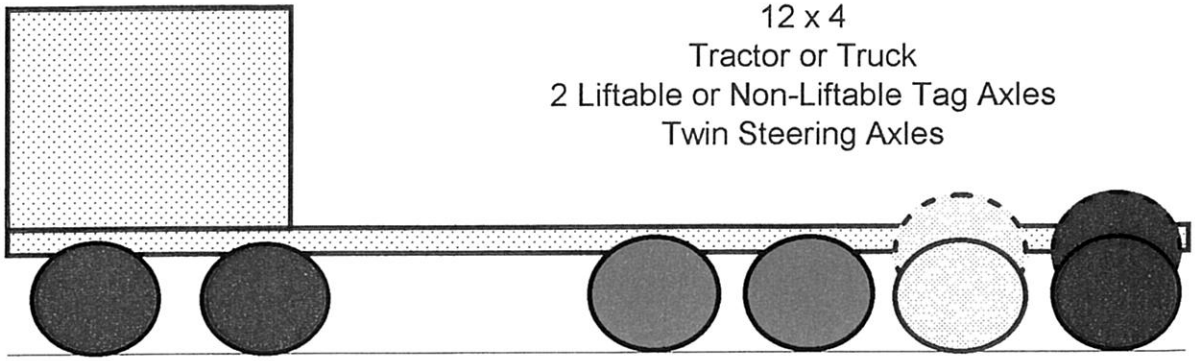
Opt. Valve	Relay-1			Relay-2	Relay-3		Relay-4 or 5
Hold-Off	4.0 psi			4.0 psi	4.0 psi		4.0 psi
Circuit	Secondary		**Configuration**	Secondary	Primary		Sec or Prim
ABS Sensor	Sensed	No	**#6**	No	Sensed	No	No
Modulator	Modulated	No		No	Modulated	Modulated	No
Chamber	Any	Any		Any	Any	Any	Any
Brake	15" x 4"	15" x 4"		Any	Any	Any	Any
Suspension	Any	Any		Any	For Suspension Group #2		Any

Suspension Group #1: FAS-1, Airliner, Neway, Hendrickson, Chalmers
Suspension Group #2: F/L Spring, Reyco Tandem

Design Rules For Valves And ABS

Vehicle Type:

12 x 4
Tractor or Truck
2 Liftable or Non-Liftable Tag Axles
Twin Steering Axles



	Steering			Drive Axles		Tag Axles	
Std. Valve	Relay-1			Relay-2		Relay-3 or 4	Relay-4
Hold-Off	5.5 psi			5.5 psi		5.5 psi	5.5 psi
Circuit	Secondary		**Configuration**	Primary		Prim or Sec	Secondary
ABS Sensor	Sensed	No	**#1**	No	Sensed	No	No
Modulator	Modulated	No		Modulated	Modulated	No	No
Chamber	Any	Any		Any	Any	Any	Any
Brake	15" x 4"	15" x 4"		Any	Any	Any	Any
Suspension	Any	Any		For Suspension Group #1		Any	Any

	Steering			Drive Axles		Tag Axles	
Std. Valve	Relay-1			Relay-2		Relay-3 or 4	Relay-4
Hold-Off	5.5 psi			5.5 psi		5.5 psi	5.5 psi
Circuit	Secondary		**Configuration**	Primary		Prim or Sec	Secondary
ABS Sensor	Sensed	No	**#2**	Sensed	No	No	No
Modulator	Modulated	No		Modulated	Modulated	No	No
Chamber	Any	Any		Any	Any	Any	Any
Brake	15" x 4"	15" x 4"		Any	Any	Any	Any
Suspension	Any	Any		For Suspension Group #2		Any	Any

	Steering			Drive Axles		Tag Axles	
Std. Valve	Relay-1			Relay-2		Relay-3 or 4	Relay-4
Hold-Off	4.0 psi			5.5 psi		5.5 or 4.0 psi	4.0 psi
Circuit	Secondary		**Configuration**	Primary		Primary	Secondary
ABS Sensor	Sensed	No	**#3**	No	Sensed	No	No
Modulator	Modulated	No		Modulated	Modulated	No	No
Chamber	Any	Any		Any	Any	Any	Any
Brake	15x5 or Larger	15x5 or Larger		Any	Any	Any	Any
Suspension	Any	Any		For Suspension Group #1		Any	Any

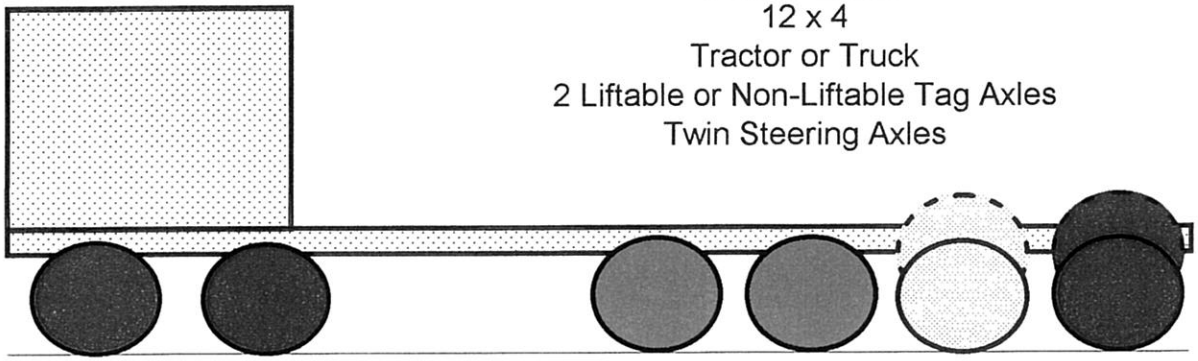
	Steering			Drive Axles		Tag Axles	
Std. Valve	Relay-1			Relay-2		Relay-3 or 4	Relay-4
Hold-Off	4.0 psi			5.5 psi		5.5 or 4.0 psi	4.0 psi
Circuit	Secondary		**Configuration**	Primary		Prim or Sec	Secondary
ABS Sensor	Sensed	No	**#4**	Sensed	No	No	No
Modulator	Modulated	No		Modulated	Modulated	No	No
Chamber	Any	Any		Any	Any	Any	Any
Brake	15x5 or Larger	15x5 or Larger		Any	Any	Any	Any
Suspension	Any	Any		For Suspension Group #2		Any	Any

Suspension Group #1: FAS-1, Airliner, Neway, Hendrickson, Chalmers
Suspension Group #2: F/L Spring, Reyco Tandem

Design Rules For Valves And ABS

Vehicle Type:

12 x 4
Tractor or Truck
2 Liftable or Non-Liftable Tag Axles
Twin Steering Axles



	Steering			Drive Axles		Tag Axles	
Opt. Valve Hold-Off Circuit	Relay-1 4.0 psi Secondary		**Configuration**	Relay-2 4.0 psi Primary		Relay-3 or 4 4.0 psi Prim or Sec	Relay-4 4.0 psi Secondary
ABS Sensor	Sensed	No	**#5**	No	Sensed	No	No
Modulator	Modulated	No		Modulated	Modulated	No	No
Chamber	Any	Any		Any	Any	Any	Any
Brake	15" x 4"	15" x 4"		Any	Any	Any	Any
Suspension	Any	Any		For Suspension Group #1		Any	Any

	Steering			Drive Axles		Tag Axles	
Opt. Valve Hold-Off Circuit	Relay-1 4.0 psi Secondary		**Configuration**	Relay-2 4.0 psi Primary		Relay-3 or 4 4.0 psi Prim or Sec	Relay-4 4.0 psi Secondary
ABS Sensor	Sensed	No	**#6**	Sensed	No	No	No
Modulator	Modulated	No		Modulated	Modulated	No	No
Chamber	Any	Any		Any	Any	Any	Any
Brake	15" x 4"	15" x 4"		Any	Any	Any	Any
Suspension	Any	Any		For Suspension Group #2		Any	Any

Suspension Group #1: FAS-1, Airliner, Neway, Hendrickson, Chalmers
Suspension Group #2: F/L Spring, Reyco Tandem