

Chief

impulse - VHT

PARTS MANUAL




Parts Information

To order replacement parts for the Chief *impulse - VHT* System, contact an authorized representative of Chief Automotive Technologies, 1-308-384-9747 or 1-800-445-9262 (USA only).

When contacting Chief Automotive Technologies by telephone or mail, provide the following information: name, name of business, business telephone number and business address. Additional information needed when ordering: description of parts and part numbers, machine model number and machine serial number.

NOTE: Chief reserves the right to alter parts specifications and/or package components without notice.

 **CAUTION:** Always use Chief Automotive Technologies authorized replacement parts with *impulse* Systems. When replacing any part, make certain the part meets the original equipment requirements.

Hydraulic Hoses

The 3/8" I.D., two wire hydraulic hoses furnished with this product meet the requirements of SAE 100R2AT and have a minimum burst pressure of 20,000 psi. They should not be used with any other system having higher than 10,000 psi output. All hydraulic components must be replaced with Chief Automotive Technologies authorized replacement parts.

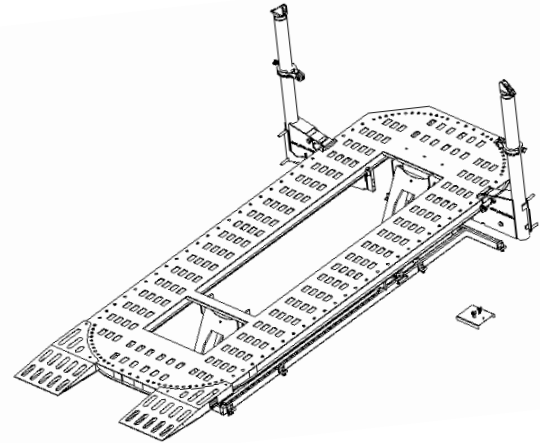
Pneumatic Hoses

The pneumatic components with this product meet the specified requirements and have a working pressure at or above 150 psi. They should not be used with any other system having a higher psi output. All pneumatic components must be replaced with Chief Automotive Technologies authorized parts.

Bolts and Fasteners

All bolts and fasteners must be replaced with Chief Automotive Technologies authorized replacement parts

Chief *impulse - VHT*



and must not be less than Grade 5 (Class 8.8). Any bolt used in a pulling clamp that is frequently tightened must be a Grade 8 (Class 10.9). All bolt lengths and diameters must be equal to those installed at the factory.

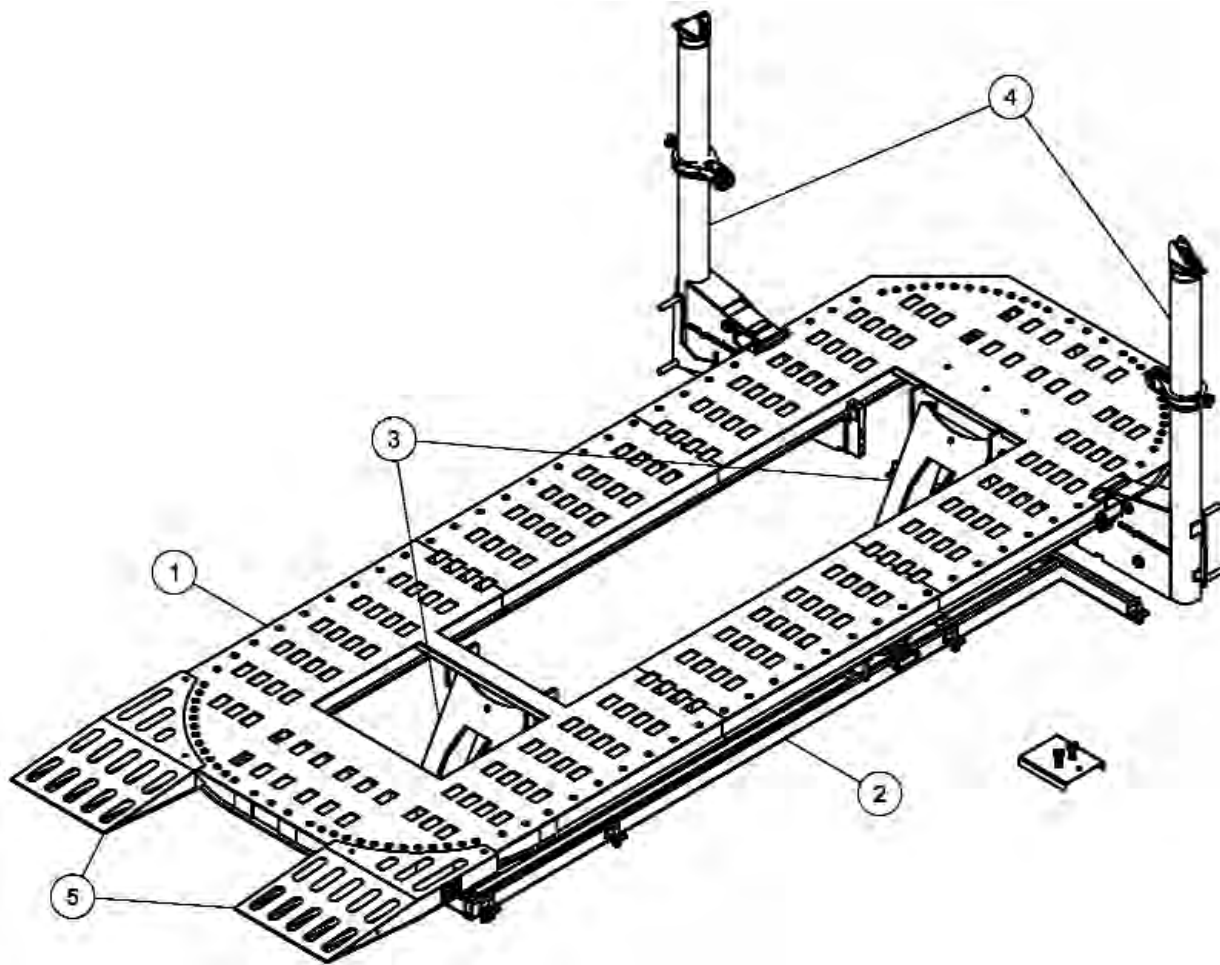
Chain

The 3/8 inch tower chain furnished with this product is a special alloy frame straightening chain designed exclusively for Chief Automotive Technologies to meet the rigid requirements of the collision repair industry. The 3/8" chain is proof tested to 20,000 lbs. (90kN). If replacement is required, purchase only the original Chief product from an authorized Chief Automotive Technologies representative.

Labels

Replacement SAFETY and WARNING labels are available in several languages and may be ordered by contacting an authorized Chief Automotive Technologies representative.

Chief *impulse* - VHT System



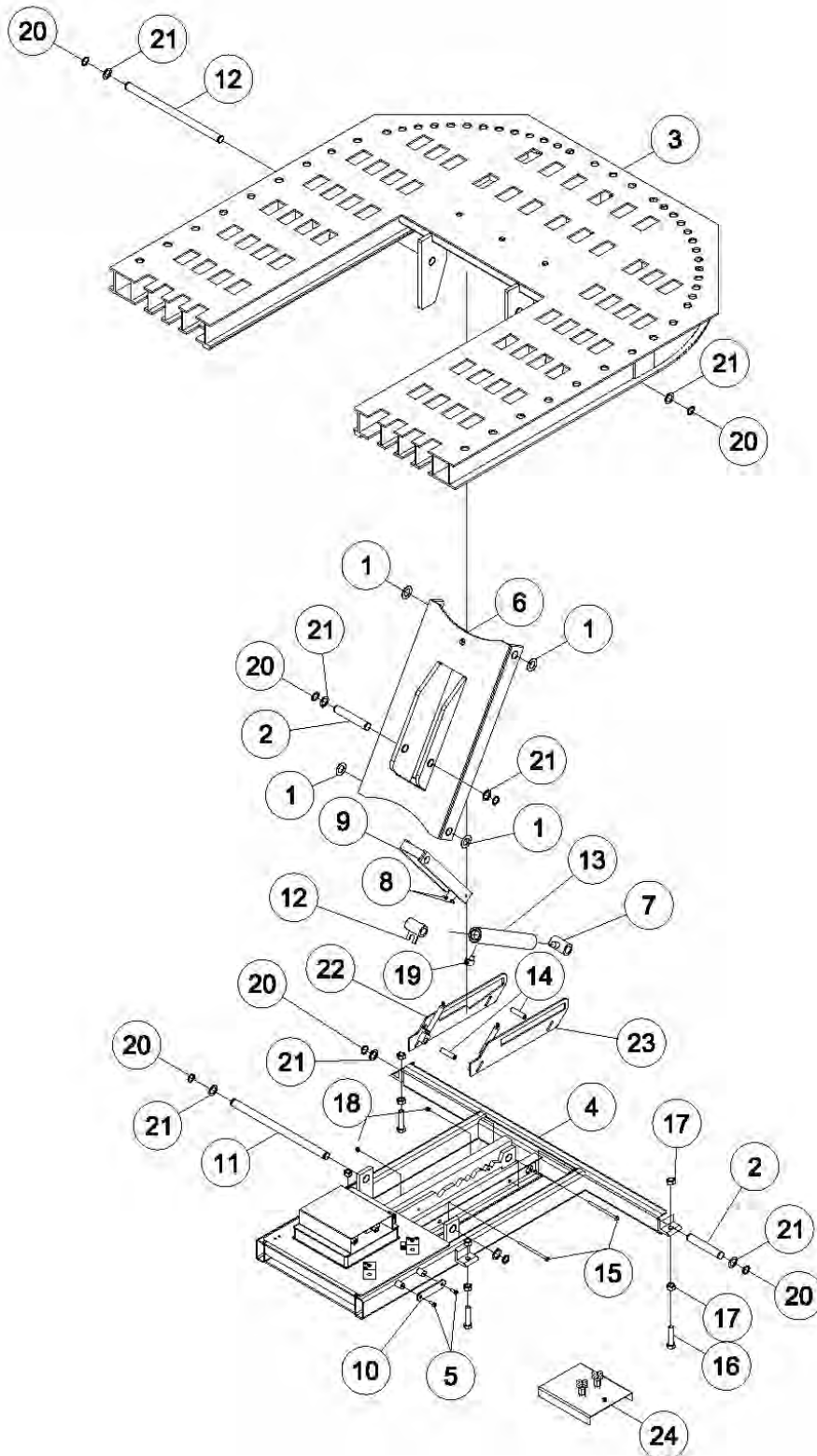
450800 - Impulse-18 VHT 20 Series, Basic, Chief

450900 - Impulse-20 VHT 20 Series, Basic, Chief

Ref	Part No.	Description
1	450801	Weldment, Impulse-18 VHT Deck
	450901	Weldment, Impulse-20 VHT Deck
2	450810	Weldment, Impulse-18 Porta-Frame
	450910	Weldment, Impulse-20 Porta-Frame
3	450820	Weldment, Impulse VHT Lift Leg
4	450220	Assembly, Impulse 360 Tower
5	450250	Ramp, Complete Single
	450350	Ramp, Complete Single (new style)
*	450003	Crossmember, Narrow Impulse (optional)
*	450530	Crossmember, Wide Impulse (optional)

* Not Shown In Drawing

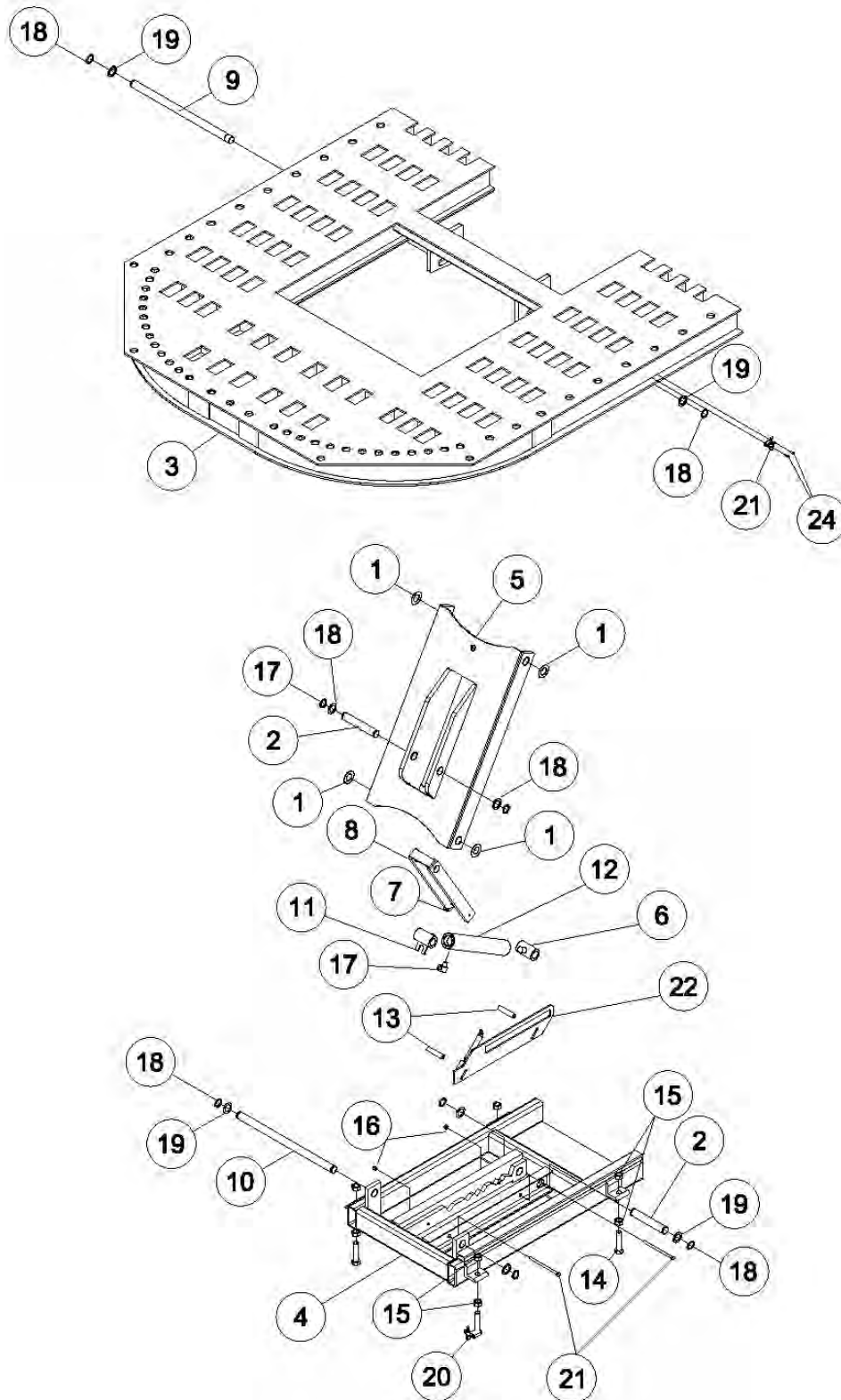
impulse - VHT Front Porta-Frame Assembly



impulse - VHT Front **Porta-Frame Assembly (Cont.)**

Ref.	Part No.	Description
1	305030	Washer, Thrust - 1 1/4 ID x 2 1/2 OD x 1/16 Self Lubricating
2	450224	Pin, Tower Linkage Long
3	450801 450901	Weldment, Impulse-18 VHT Deck Weldment, Impulse-20 VHT Deck
4	450810 450910	Weldment, Impulse-18 Porta-Frame Weldment, Impulse-20 Porta-Frame
5	450195	Screw, 3/8-16C x 7/8" Socket Head Cap
6	450820	Weldment, Impulse VHT Lift Leg
7	450825	Weldment, Impulse Rod Cylinder Clevis
8	450832	Bolt, 5/16-18NC x 1/2 Socket Head Cap
9	450835	Weldment, Impulse VHT Lock Arm
10	450836	Hose Retainer, Impulse Porta-Frame
11	450844	Pin, Impulse VHT Long
12	450855	Weldment, Impulse VHT Base Cylinder Mount
13	450857	Cylinder, 15 ton x 10" stroke Internal Thread Base
14	450888	Spacer, Impulse VHT Unlock Short
15	450947	Bolt, 3/8-16NC x 6 1/2 gr. 5 Plated
16	539013	Bolt, M20 x 2.5 x 90 Hex Full Thread
17	539016	Nut, M20 x 2.5 Hex
18	629440	Nut, 3/8-16NC Hex Lock
19	649281	ELBOW, 90, FEM. X M. NPTF W/ORIFICE
20	693468	Snap Ring, HD for 1 1/4" shaft
21	707487	Washer, Flat - 1 1/4" ID x 1 7/8" OD x 14 GA - plated
22	see detail	Unload Assembly (see page 8)
23	see detail	Unlock Assembly (see page 8)
24	see detail	Lift Valve Enclosure Assembly (see page 9)

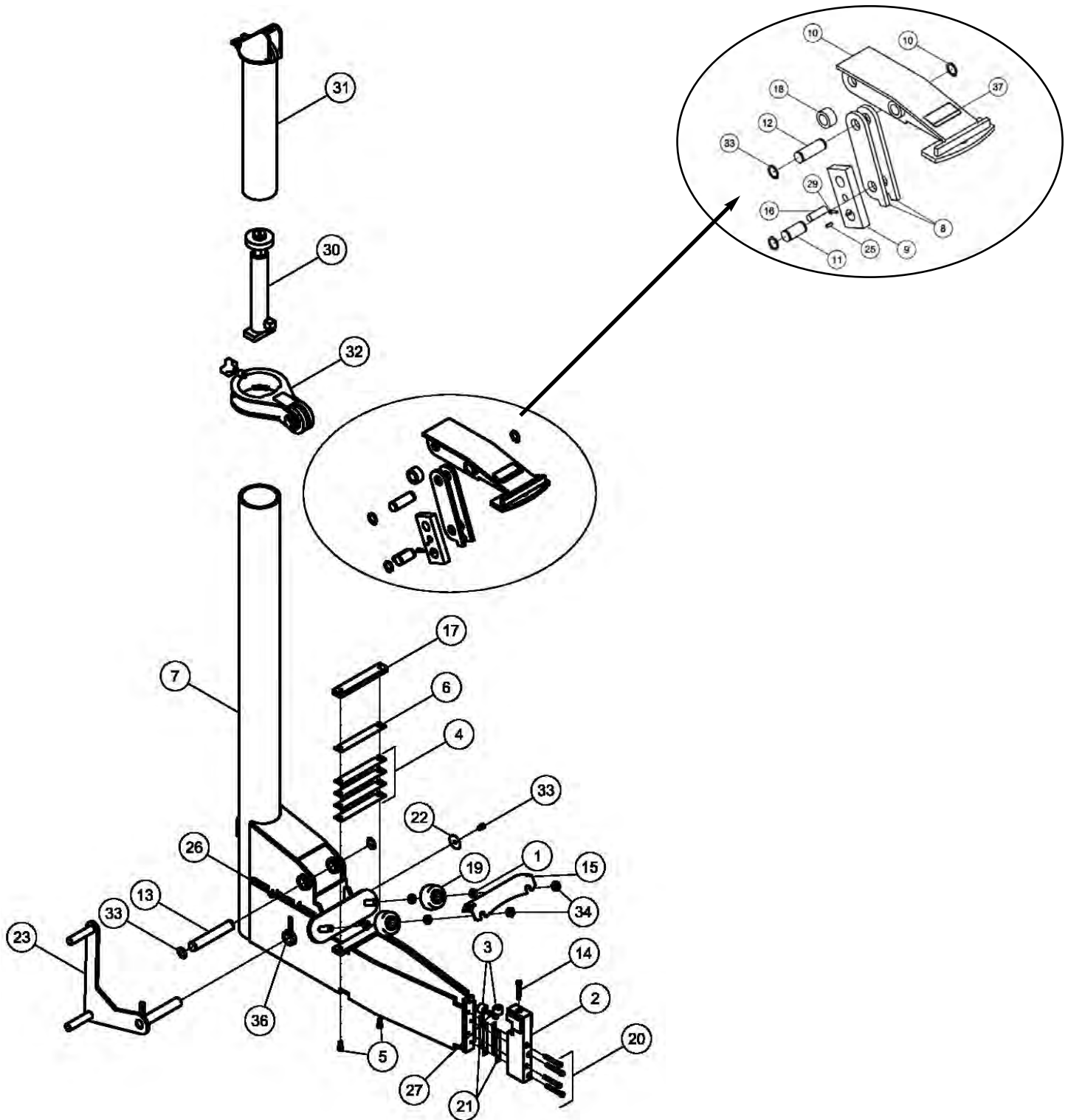
impulse - VHT Rear **Porta-Frame Assembly**



impulse - VHT Rear **Porta-Frame Assembly (Cont.)**

Ref.	Part No.	Description
1	305030	Washer, Thrust - 1 1/4 ID x 2 1/2 OD x 1/16 Self Lubricating
2	450224	Pin, Tower Linkage Long
3	450801 450901	Weldment, Impulse-18 VHT Deck Weldment, Impulse-20 VHT Deck
4	450810 450910	Weldment, Impulse-18 Porta-Frame Weldment, Impulse-20 Porta-Frame
5	450820	Weldment, Impulse VHT Lift Leg
6	450825	Weldment, Impulse Rod Cylinder Clevis
7	450832	Bolt, 5/16-18NC x 1/2 Socket Head Cap
8	450835	Weldment, Impulse VHT Lock Arm
9	450842	Pin, Impulse VHT Tilt
10	450844	Pin, Impulse VHT Long
11	450855	Weldment, Impulse VHT Base Cylinder Mount
12	450857	Cylinder, 15 ton x 10" stroke Internal Thread Base
13	450884	Spacer, Impulse VHT Unlock Long
14	539013	Bolt, M20 x 2.5 x 90 Hex Full Thread
15	539016	Nut, M20 x 2.5 Hex
16	629440	Nut, 3/8-16NC Hex Lock
17	649281	ELBOW, 90, FEM. X M. NPTF W/ORIFICE
18	693468	Snap Ring, HD for 1 1/4" shaft
19	707487	Washer, Flat - 1 1/4" ID x 1 7/8" OD x 14 GA - plated
20	see detail	Overload Switch (see page 9)
21	see detail	Tilt Switch (see page 9)
22	see detail	Unlock Assembly (see page 8)
23	see detail	Unload Assembly (see page 8)
24	305049	Screw, 10-32 Socket Head Cap

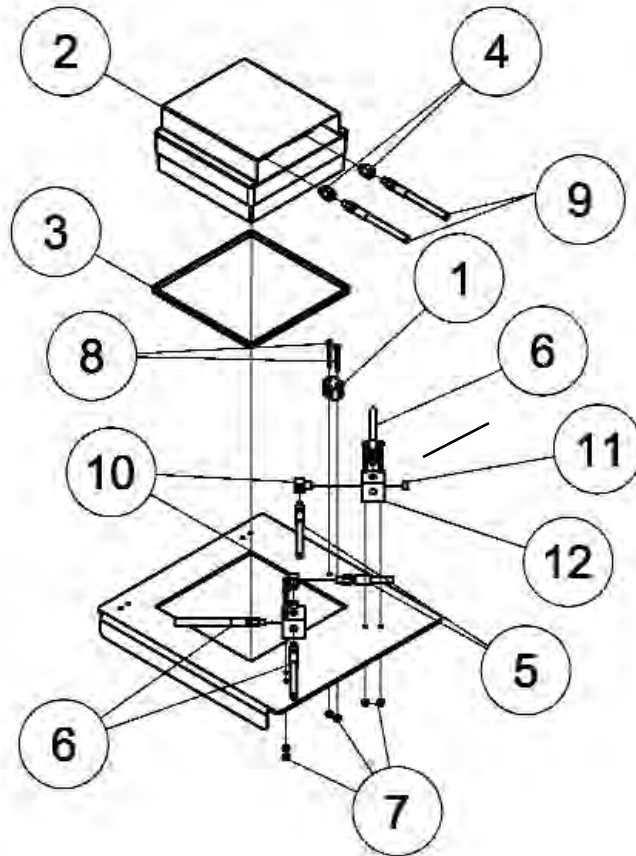
impulse Tower Assembly



impulse Tower Assembly (Cont.)

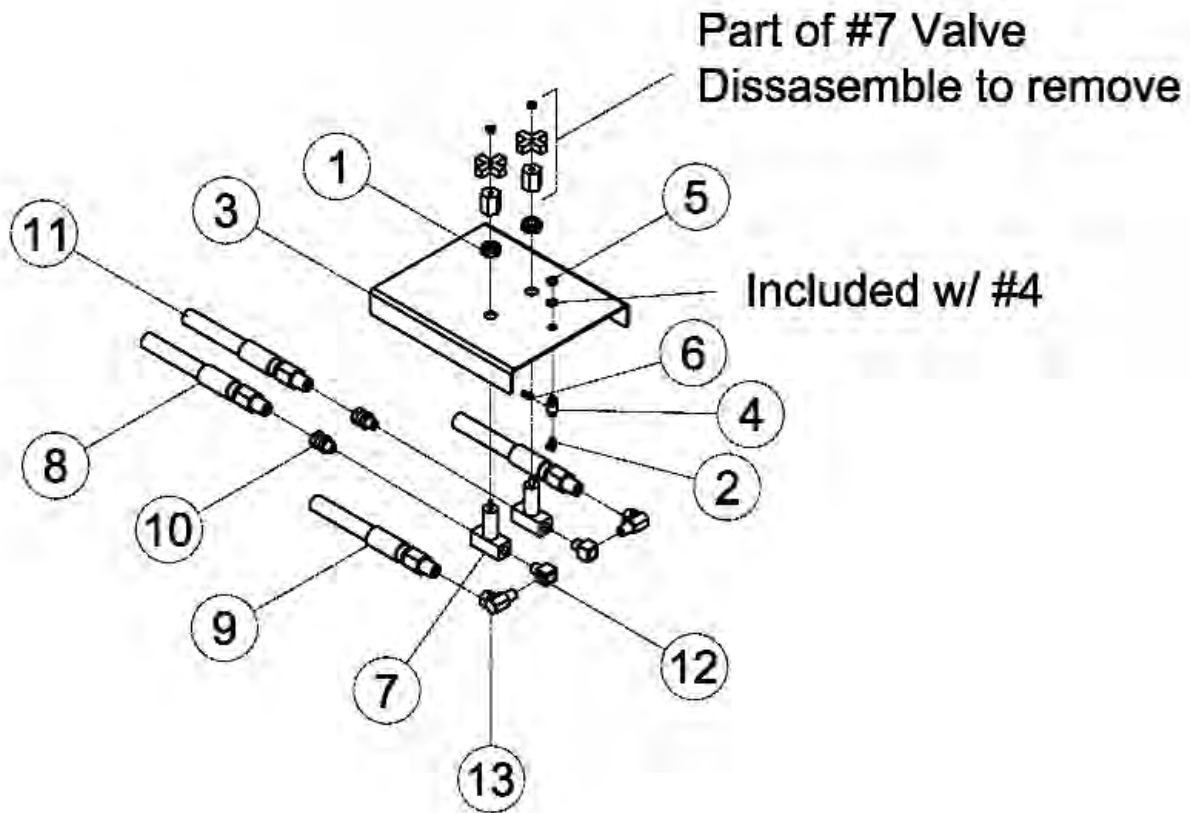
Ref	Part No.	Description
1	305063	Washer, 3/4id x 1 1/4od x .093" shim
2	450014	Weldment, 360 Tower Hook
3	450146	Roller, Inside Tower
4	450194	Shim, Tower Outrigger .0164"
5	450195	Screw, 3/8-16NC x 7/8 Socket Hd Cap
6	450198	Shim, Tower Outrigger, .0598"
7	450200	Weldment, 360 Tower
8	450217	Bar, Tower Float Linkage
9	450218	Bar, Tower Linkage Driver
10	450221	Weldment, Tower, Sure-Lock Clamp
11	450222	Pin, Tower Linkage Short
12	450223	Pin, Tower Linkage Medium
13	450224	Pin, Tower Linkage, Long
14	450227	Bolt, 3/8 x 2 x 2 Shoulder-5/16-18 Thread
15	450228	Guard, Tower Outside Roller
16	450231	Pin, Tower Over Center
17	450233	Spacer, Tower Outrigger
18	450234	Spacer, Tower Force Clamp
19	450235	Assembly, Tower Outside Wheel
20	450236	Screw, 3/8-16NC x 2 3/4 Socket Head Cap
21	450238	Shim, 360 Tower-16 ga.
22	450241	Washer, 2"od x13/32"id x .047" Thick
23	450242	Weldment, Tower Lever
24	450243	Screw, 3/8-16 Socket Head Cap
25	450244	Key, 1/4 x 1/4 x 1"
26	450245	Decal, Impulse Tower
27	620226	Screw, 3/8-16 x 1 1/4 Socket Hd Cap
28	629773	Bolt, 3/4-10 NC x 2 3/4" Long
29	630635	Bolt, 1/4-20 x 1 Hex
30	689859	Ram Assembly, Tower, Chief, 5 Ton
31	690611	Weldment, EZ-II Tower Head
32	690793	Assembly, EZ-II Collar
33	693468	Snap Ring, HD for 1 1/4" Shaft
34	770016	Nut, 3/4-10NC Lock Jam Gr 5 PI
35	685206	Tower Chain With Hook, 3/8" x 12'

impulse - VHT Pump Mount Plate



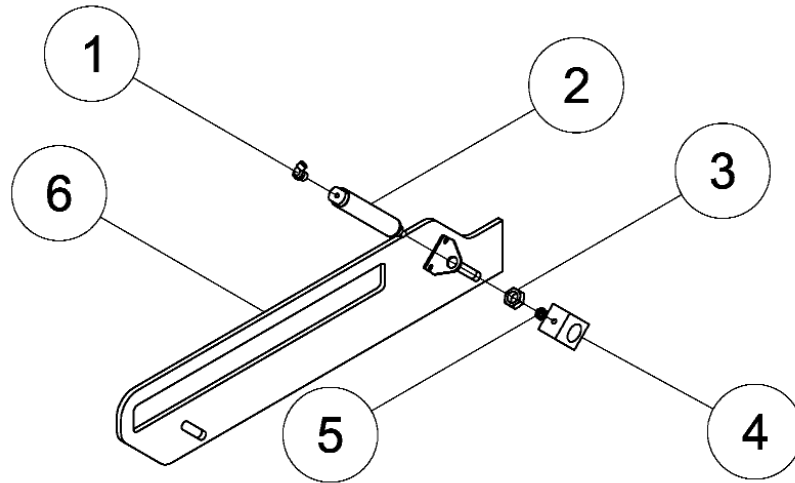
Ref.	Part No.	Description
1	092376	Clamp, 5/8" Dia.
2	480581	Pump, Air over Hydraulic Double
3	450853	Edge Molding, Impulse VHT Pump
4	580443	CONVERSION ADAPTER, M-BSPP /F - NPT
5	602511	Hose, 45" x 3/8" NPT
6	610300	Auxiliary Line Assembly
7	629423	Nut, 1/4-20 NC, Whiz Flange Lock, PI
8	630660	Bolt, Hex, 1/4-20 X 2 1/2 Gr. 2, Pla
9	649286	Hose, 18 1/2" x 3/8" NPT
10	682822	Short Body Street Elbow, 90,T OM#5502
11	693601	Hollow Hex Plug, 3/8" NPT, Lenz #6HH
12	657944	5-Hole Manifold Black

impulse - VHT Lift Valve Enclosure



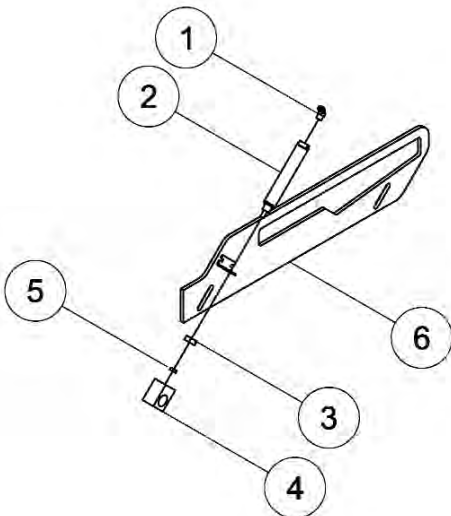
Ref.	Part No.	Description
1	018166	Nut Hex JAM 3/4-16
2	305797	Fitting, 10-32 Microlok, 90 dg
3	450840	Weldment, Tower Valve Enclosure
4	450883	Normally Closed 3-way Spool Valve
5	450889	BUTTON ACTUATOR OR / 1/8" STEM
6	450934	Fitting, 10-32 to 5/32 Press-to-Lock
7	601045	Valve, Needle
8	602474	Hose, 176" x 3/8" NPT
9	602511	Hose, 45" x 3/8" NPT
10	602562	Swivel Coupler
11	609174	Hose, 76" x 3/8" NPT
12	682822	Short Body Street Elbow, 90
13	693820	Fitting, 3/8-18 NPT to 3/8-18 NPT Sww

impulse - VHT Unlock Bar



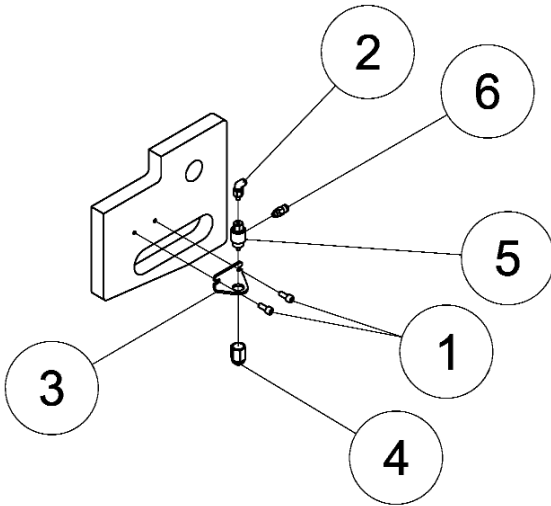
Ref.	PART NO.	DESCRIPTION
1	450858	Fitting, Pneumatic, 1/8 NPT to 5/32 Press to Lock 90
2	450862	Pneumatic Cylinder, 3/4" bore x 2" stroke spring return
3	450863	Nut, 1/2-20 UNF Hex Jam
4	450864	Rod Eye, Impulse VHT Unlock
5	450868	Nut, 1/4-28 UNF Hex Jam
6	450865	Weldment, Impulse VHT Unlock

impulse - VHT Unload Bar



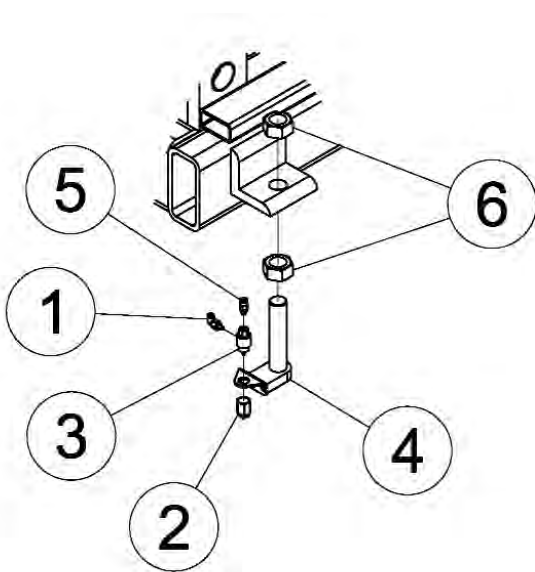
Ref.	PART NO.	DESCRIPTION
1	450858	Fitting, Pneumatic, 1/8 NPT to 5/32 Press-to-Lock 90
2	450862	Pneumatic Cylinder, 3/4" bore x 2" stroke spring return
3	450863	Nut, 1/2-20 UNF Jam
4	450864	Rod Eye, Impulse, VHT Unlock
5	450868	Nut, 1/4-28 UNF Hex Jam
6	450870	Weldment, Impulse-18 VHT Unload
7	450940	Weldment, Impulse-20 VHT Unload

impulse - VHT
Tilt Switch



Ref.	PART NO.	DESCRIPTION
1	305049	Screw, 10-32 X 1/2 SHCS
2	305797	Fitting, 10-32 Microlok, 90 dg
3	450861	Mounting Foot, 3/4" bore Pneumatic Cylinder
4	450882	Ball Cam Acuator
5	450883	Normally Closed 3-way Spool Valve
6	450934	Fitting, 10-32 to 5/32 Press-to-Lock

impulse - VHT
Overload Switch



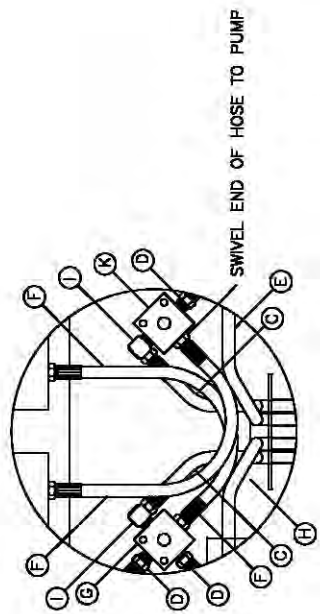
Ref.	PART NO.	DESCRIPTION
1	305797	Fitting, 10-32 Microlok, 90 dg
2	450882	Ball Cam Acuator
3	450883	Normally Closed 3-way Spool Valve
4	450885	Weldment, Impulse VHT Overload Sensor
5	450934	Fitting, 10-32 to 5/32 Press-to-lock
6	539016	Nut, M20 x 2.5 Hex

impulse - VHT Safety Decals

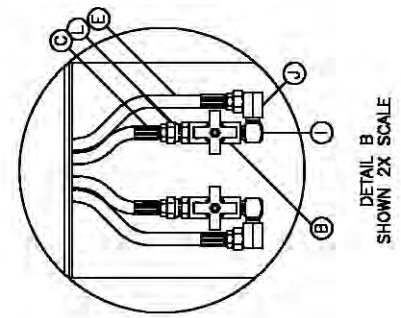
Qty.	Part No.	Description
1	305093	Label - Caution - Exceleator Wheel Stop
2	450044	Decal - Mainfram Impulse-VHT
1	450046	Decal - Logo with Phone Impulse-VHT
4	450245	Decal - Impulse Tower
1	692052	Label - Caution, Lift Operation Impulse-VHT
1	692053	Label - Caution, Lock Level Impulse-VHT
2	692054	Label - Caution, Crossmember Position
1	692090	Label - Caution, Operation Impulse
1	692091	Label - Warning, Force Clamp Impulse
2	692092	Label - Caution, Crossmember Impulse
2	692093	Label - Caution, Pinch-Point Impulse
2	692095	Label - Warning, Lift with Ramps Impulse
1	692107	Label - Serial Number
1	692135	Label - Patent Pending
1	692143	Label - Not Lifting of Persons
2	692154	Label - Caution, Protect Foot
2	693337	Label - Warning, Do Not Position Your
2	693339	Label - Caution, Egree/Ingress

impulse - VHT Hydraulics

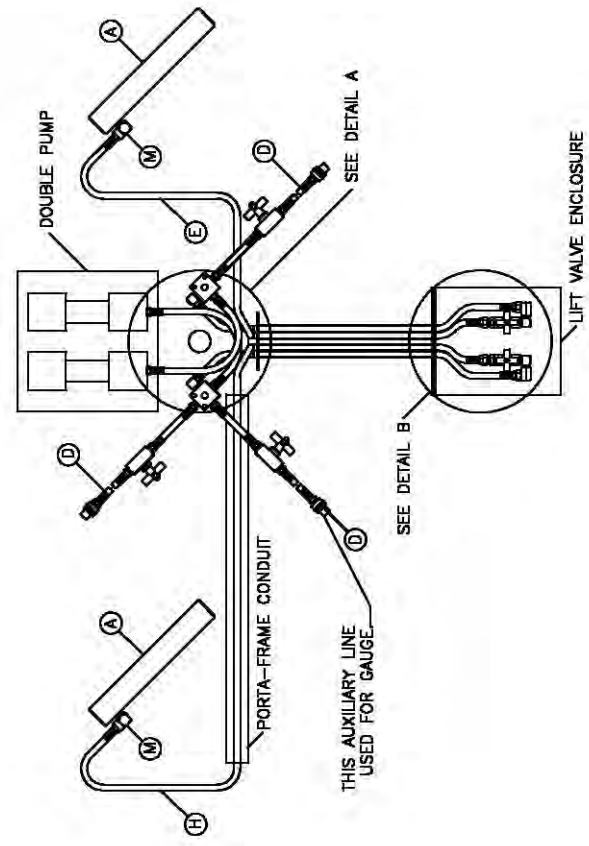
ITEM	PART NO.	REQ'D	DESCRIPTION
A	450857	2	Cylinder, 15 ton x 10" Stroke Impulse VHT
B	601045	2	Needle Valve
C	602511	2	Hose, 45" x 3/8" NPT
D	610300	3	Auxiliary Line Assembly
E	609174	1	Hose, 76" x 3/8" NPT
F	649286	2	Hose 18 1/2" x 3/8" NPT M X 3/8" NPT Swivel M
G	657344	2	Hose Block, 5-Hole
H	602474	1	Hose, 170" x 3/8" NPT
I	682822	4	Short Body Street Elbow, 90, TOM#5502
J	683820	2	Fitting, 3/8-18 NPT to 3/8-18 NPT Sw
K	693601	3	Hollow Hex Plug, 3/8" NPT
L	602562	2	Swivel Coupler, 3/8" NPT
M	649281	2	Elbow with Orifice, 3/8" NPT
N	450851	1	Pump, Air over hydraulic Double



DETAIL A
SHOWN 2X SCALE

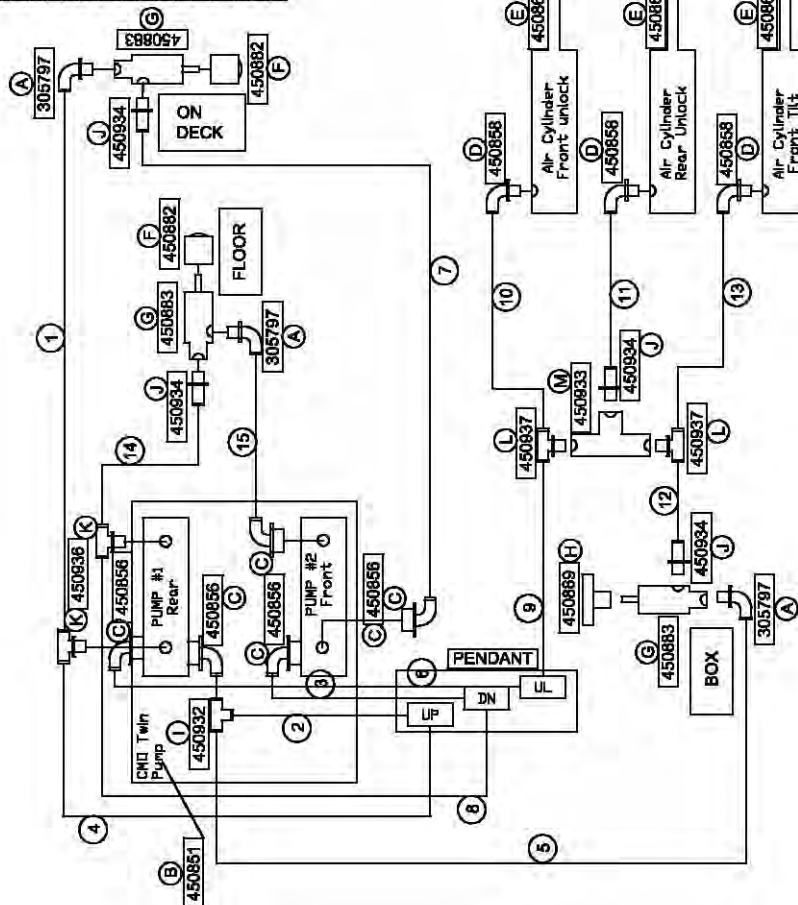


DETAIL B
SHOWN 2X SCALE



impulse - VHT Pneumatics

ITEM	PART NO.	REQ'D	DESCRIPTION
A	305797	3	FITTING, 10-32 MICROLOCK 90DEG
B	450851	1	PUMP AIR OVER HYDRAULIC DOUBLE
C	**450856	5	PNL-FITTING, 1/8-BSPP TO 5/32 PTL-90
D	450858	3	FITTING-PNUE: 1/8NPT TO 5/32 PTL-90
E	450862	3	CYLINDER PNUE: 3/4" BR. X 2" STROKE
F	450862	2	BALL CAM ACTUATOR, IMPULSE VHT
G	450863	3	VALVE SPOOL NORM CLOSED 3-WAY, IMP-VHT
H	450889	1	BUTTON ACTUATOR 1/8" STEM, IMP-VHT
I	450892	1	UNION T, 5/32" PRESS TO LOCK
J	450934	4	FITTING, 10-32 TO 5/32 PTL
K	450936	2	BRANCH T, 1/8 BSPP TO 5/32 PTL
L	450937	2	FITTING, BRANCH T, 10-32 TO 5/32 PTL
M	450937	1	PNUE-SHUTTLE VALVE, 10-32 UNF
N	205648	88'	TUBING, 5/32" SOFT NYLON RAW
O	450854	8.5'	SHIELDING, AIR SUPPLY LINE, IMPULSE-VHT



(N) TUBING 305848 CUT LENGTHS

- (*)1 - 14' - 10-1/2"
- 2 - (PROVIDED W/PUMP) - Red
- 3 - (PROVIDED W/PUMP) - Red
- 4 - (PROVIDED W/PUMP) - Yellow
- 5 - 5' - 1-1/2"
- 6 - (PROVIDED W/PUMP) - Black
- (*)7 - 14' - 5-1/2"
- 8 - (PROVIDED W/PUMP) - Blue
- 9 - (PROVIDED W/PUMP) - Clear
- 10 - 3' - 1-1/2"
- (*)11 - 11' - 8"
- 12 - 5'
- 13 - 3' - 1-1/2"
- (*)14 - 10' - 3"
- (*)15 - 10' - 3"

SHIELDING

- 1 - 48" - #5, #12
- 2 - 12" - #1, #7
- 3 - 12" - #1, #7
- 4 - 18" - #1, #7, #13, #14, #15
- 5 - 10" - #10, #11

NOTE: TOTAL - 100" (8.5')

EDGE PROTECTOR

450853 - 4' (48")

NOTE: (*) TAPED TOGETHER TO RUN DOWNCONDUIT



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