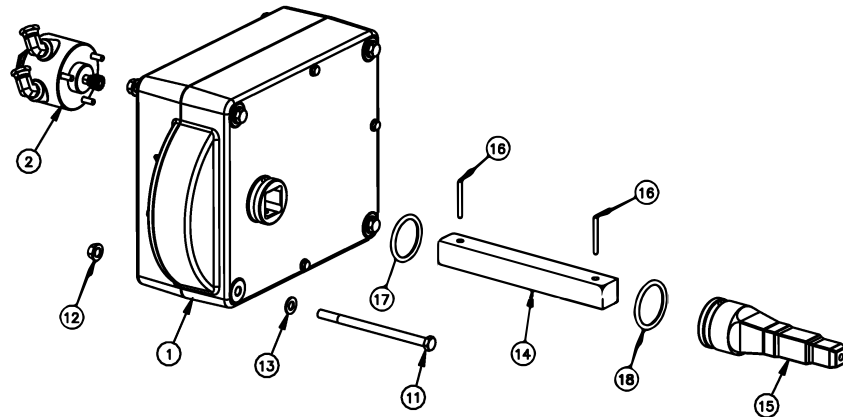
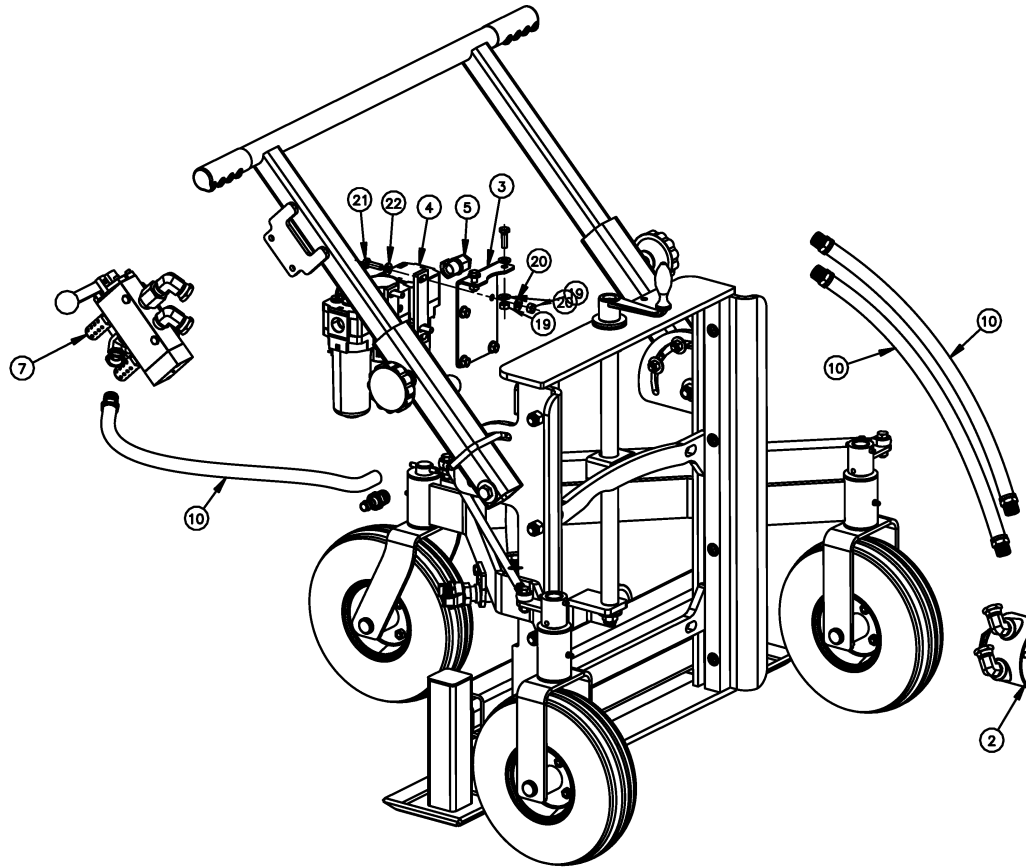
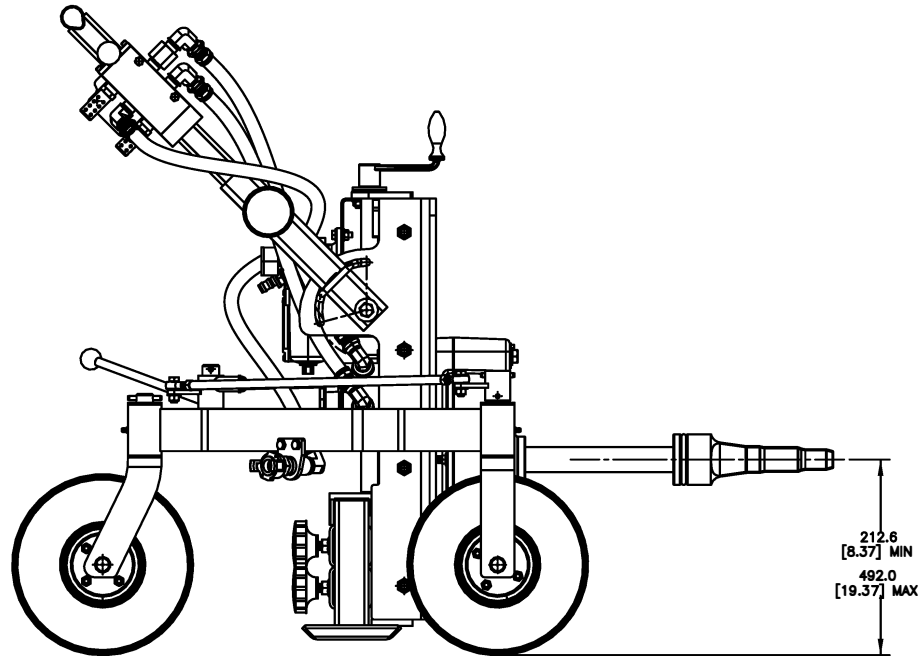
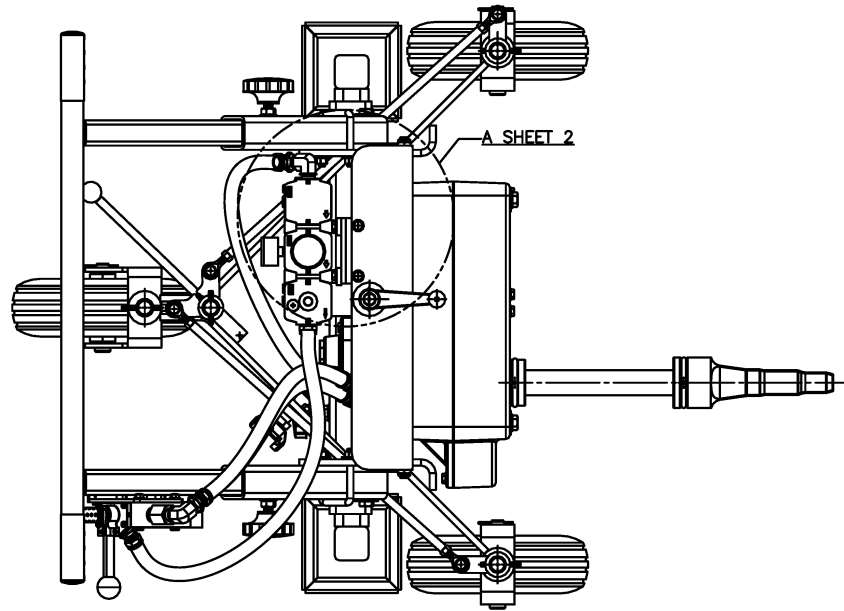
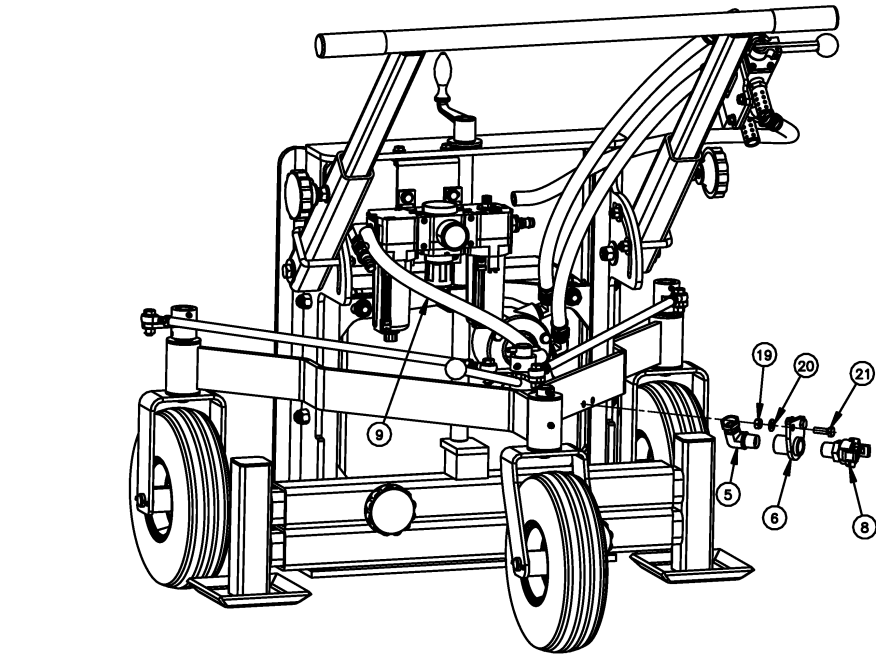
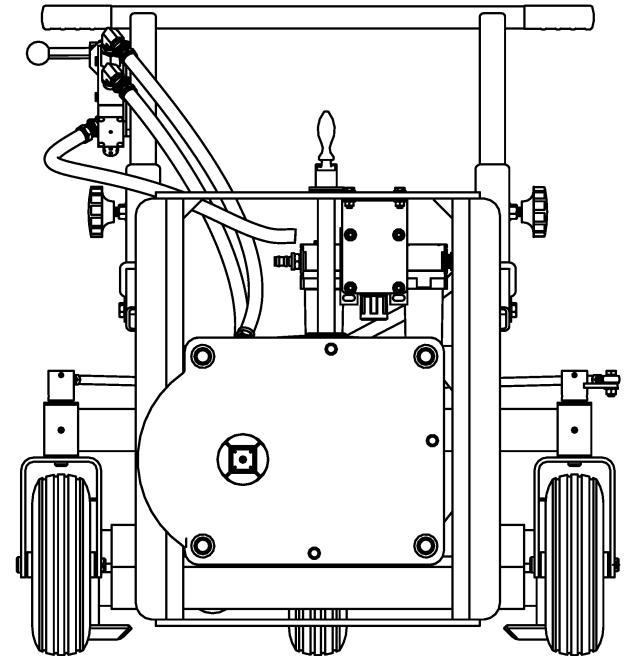


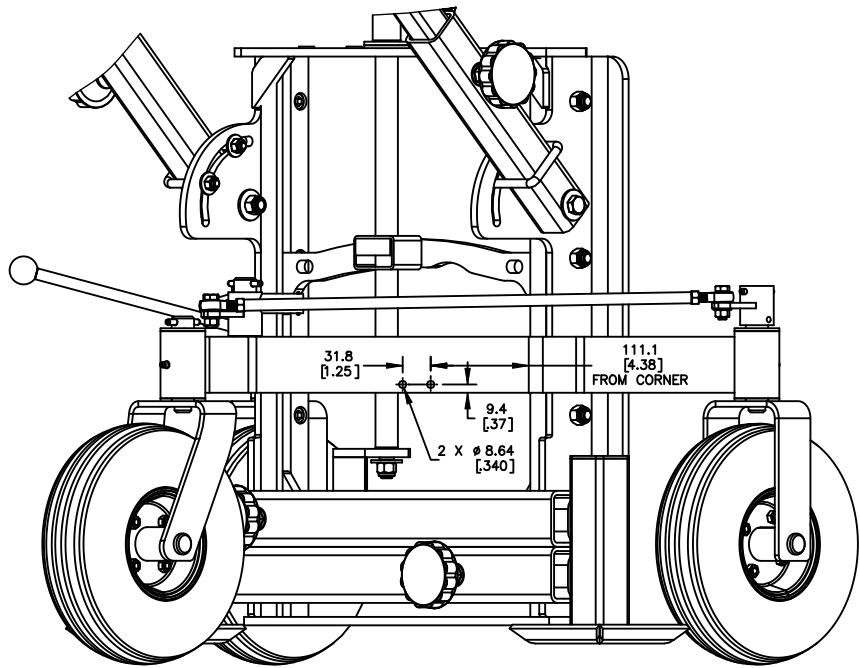


ITEM	QTY.	DESCRIPTION	PART NUMBER
1	1	GEAR CASE ASM	RO10106TP
2	1	AIR MOTOR ASM	RO10181
3	1	REGULATOR MOUNT BRACKET	RO10151
4	1	FBL 1/2-NPT	14760
5	2	ELBOW PIPE/SWIVEL 1/2 NPTF X 1/2 NPSM SWIVEL	13368
6	1	PIPE COUPLING WELDMENT - ORANGE	RO10184P
7	1	CONTROL VALVE ASM	RO10185
8	1	UNIVERSAL TWIST CLAW COUPLING 1/2-NPT	39318
9	1	HOSE ASM 1/2-NPT X 20.00 LG	RO10186-1
10	3	HOSE ASM 1/2-NPT X 25.00 LG	RO10186-2
11	4	SCREW HHC 1/2-13NC X 8 GR 5 ZP	SUS10168
12	4	NUT HEX FLANGE 1/2-13NC GR 2 ZP	18843
13	4	WASHER COMPRESSION 1/2	11750
14	1	DRIVE SHAFT 12.19 LG - GREEN	RO10105P-20
15	1	CAPSTAN DRIVE POINT ADAPTER	RO10108P
16	2	DRIVE SHAFT RETAINING PIN	RO10110
17	1	O-RING #408 2.350 ID X .275 CS N70A	SUS10195
18	1	O-RING #408 2.475 ID X .275 CS N70A	SUS10197
19	8	NUT HEX 5/16-18NC GR 2 ZP	11963
20	8	WASHER COMPRESSION 5/16	11452
21	8	SCREW HHC 5/16-18NC X 1 GR 5 ZP	32583
22	6	WASHER FLAT 5/16 NARROW ZP	17083
23	1	AIR MOTOR OIL - QUART	14766

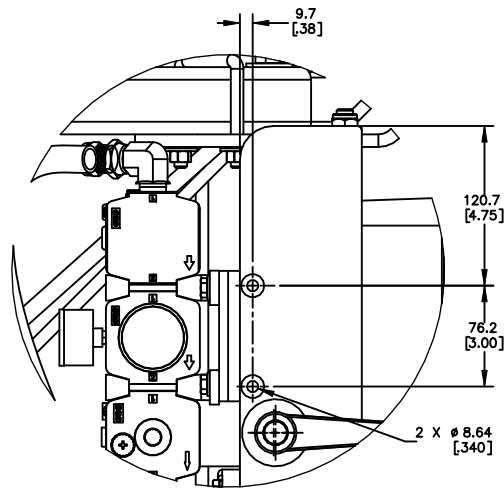
NS = NOT SHOWN



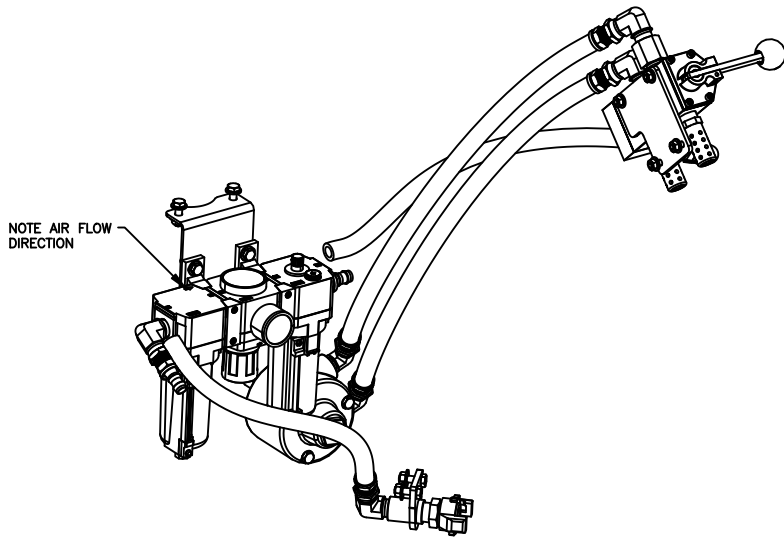
B	CHGD P/N RO10184 TO RO10184P	16735	06/20/25	JAP
A	(SHT 1) CHGD P/N 12250 TO 32583 & 31401 TO 11452 IN THE FROM CHGD QTY OF 32583 FROM 4 TO 8 & 11452 FROM 4 TO 8 IN THE BODY	16685	02/26/25	MJB
REV	DESCRIPTION	ECN	DATE	BY
MATERIAL:		WEIGHT: 140.3 KG		
UNLESS OTHERWISE SPECIFIED TOLERANCES IN MM [INCH]:		SURFACE FINISH: 12.5/		
DIMENSIONS ARE IN MM [INCH]		.X = 1.5 [.06]		
[INCH] ARE FOR REFERENCE ONLY		.XK = .75 [.03]		
		.XKX = .125 [1.005]		
		DRAFT ANGLE: -		
SOLDWORKS				



INLET COUPLING WELDMENT
HOLE LOCATION



DETAIL A
REGULATOR MOUNT
BRACKET HOLE LOCATION
SCALE 3:8



AIR LINE
PLUMBING DETAIL
SCALE 1:4

- FIELD CONVERSION NOTES
- 1) REMOVE GEARBOX, AIR MOTOR, HOSES AND CONTROL VALVE FROM EXISTING RAILCAR OPENER CART.
 - 2) THE OLD AIR MOTOR CAN BE SAVED AND REUSED AS A SPARE IF DESIRED. THE SPUR GEAR ON THE NEW AIR MOTOR HAS A DIFFERENT PRESSURE ANGLE THAN THE OLD GEAR AND IS NOT COMPATIBLE WITH THE GEARS IN THE NEW GEARBOX. REMOVE THE SPUR GEAR AND AIR FITTINGS FROM THE OLD AIR MOTOR AND DISCARD.
 - 3) DRILL HOLES IN TOP PLATE AND SIDE FRAME PLATE OF CART AS SHOWN IN DRAWING VIEWS. THE REGULATOR MOUNTING BRACKET AND THE INLET COUPLING WELDMENT CAN BE USED AS A TEMPLATE TO LOCATE THE HOLES.
 - 4) INSTALL THE NEW GEARBOX INTO THE CART FRAME USING THE INCLUDED HARDWARE. TORQUE SCREWS TO 75 FT-LBS MAX.
 - 5) INSTALL THE REGULATOR TO THE NEW HOLS DRILLED INTO THE CART FRAME USING THE SUPPLIED HARDWARE.
 - 6) INSTALL THE INLET COUPLING WELDMENT TO THE CART FRAME USING THE INCLUDED HARDWARE.
 - 7) INSTALL THE 90 DEG ELBOW INTO THE INLET COUPLING WELDMENT USING A THREAD SEALANT ON THE ELBOW THREADS.
 - 8) INSTALL THE CONTROL VALVE USING THE INCLUDED HARDWARE ONTO THE EXISTING HANDLE VALVE MOUNTING PLATE ON THE CART.
 - 9) INSTALL THE SHORTER OF THE 4 HOSES INCLUDED WITH THE KIT TO THE ELBOW ON THE INLET COUPLING WELDMENT AND THE OTHER END TO THE INLET SIDE OF REGULATOR.
 - 10) INSTALL A HOSE FROM THE REGULATOR OUTLET PORT TO THE ELBOW ON THE BOTTOM OF THE CONTROL VALVE.
 - 11) INSTALL A HOSE FROM THE TALLEST CONTROL VALVE ELBOW TO THE AIR MOTOR ELBOW CLOSEST TO THE GEARBOX.
 - 12) INSTALL A HOSE FROM THE SHORTER CONTROL VALVE ELBOW TO THE ELBOW FURTHEST FROM THE GEARBOX.
 - 13) INSTALL THE SQUARE DRIVESHAFT AND TAPERED DRIVE POINT ADAPTER INTO THE GEARBOX WITH THE INCLUDED RETAINING PINS AND O-RINGS. THE LARGER OF THE TWO O-RINGS IS FOR INSTALLATION ON THE TAPERED DRIVE POINT ADAPTER.
 - 14) FILL THE LUBRICATOR RESERVOIR UP TO THE FULL LINE WITH THE AIR MOTOR OIL INCLUDED WITH THE KIT.
 - 15) CONNECT PLANT AIR TO THE INLET COUPLING ON CART AND INSPECT FOR AIR LEAKS.
 - 16) SET REGULATOR PRESSURE TO DESIRED OPERATING PRESSURE (80 PSI MIN -120 PSI MAX).
 - 17) OPERATE CONTROL VALVE IN BOTH DIRECTIONS. IF THE DRIVE SHAFT ROTATION IS OPPOSITE OF WHAT IS DESIRED, REVERSE THE HOSE CONNECTIONS AT THE VALVE OF THE AIR MOTOR HOSES.
 - 18) WHILE HOLDING CONTROL VALVE OPEN, SET THE DESIRED OIL DELIVERY RATE TO 1-2 DROPS OF OIL PER MINUTE ON THE LUBRICATOR DIAL. CLOCKWISE DECREASES RATE AND COUNTERCLOCKWISE INCREASES RATE.
 - 19) CONTACT MARTIN ENGINEERING AT 800-544-2947 OR EMAIL RAILCAR@MARTIN-ENG.COM IF YOU NEED ASSISTANCE WITH THIS INSTALLATION OR TO ORDER REPLACEMENT PARTS FOR THE UNIT.

B CHGD P/N R010184 TO R010184P						16735	06/20/25	JAP
A (SHT 1) CHGD P/N 12250 TO 32583 & 31401 TO 11452						16885	02/26/25	MJB
REV DESCRIPTION						ECN	DATE	BY
MATERIAL:						WEIGHT: 87.4 KG		
UNLESS OTHERWISE SPECIFIED TOLERANCES IN MM [INCH]: SURFACE FINISH: 12.5								
DIMENSIONS ARE IN MM [INCH] .X = 1.5 [.06]						ANGULAR: 1		
[INCH] ARE FOR REFERENCE ONLY .XX = .75 [.03]						DRAFT ANGLE: -		
SOLIDWORKS								

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DATE 01/07/25		CHECKED	
ENG. JAP		DATE 01/10/25	
I.E. JAP		DATE 01/13/25	
APPROVED JAP		DATE 01/14/25	
SCALE 1:4			

MARTIN ENGINEERING NEPONSET, IL USA		TITLE	
		G4 RCO GEARBOX 38475 RETROFIT ASM	
DRAWING NUMBER		R010190P	
PR14573			