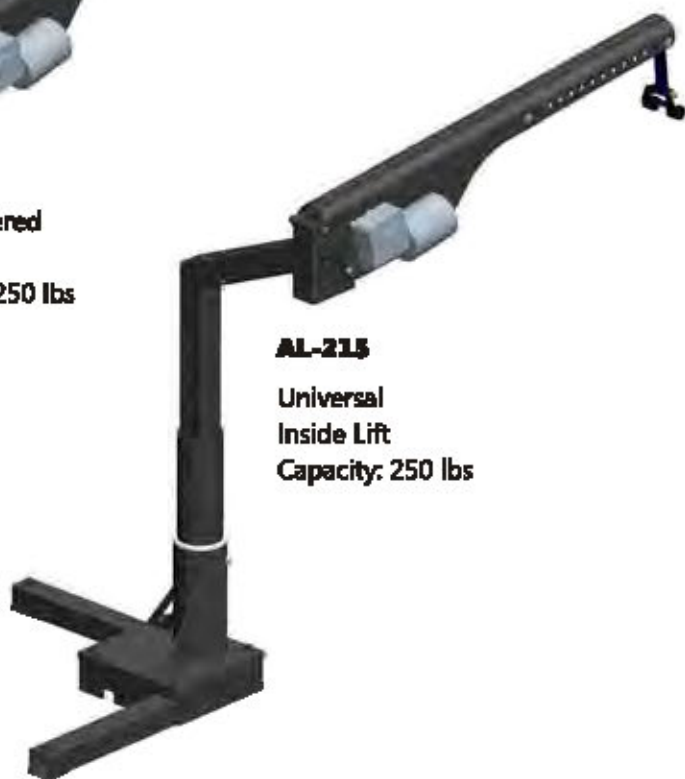




AL-425
Fully Powered
Inside Lift
Capacity: 400 lbs



AL-225
Fully Powered
Inside Lift
Capacity: 250 lbs



AL-215
Universal
Inside Lift
Capacity: 250 lbs

Read manual thoroughly before attempting to install or operate lift.

This manual has been provided to assist you with lift installation and operation. For further assistance please contact your authorized Hammar Mobility dealer or Hammar's Technical Service Department.

Tel: 800-833-0478
Fax: 866-234-0478
Email: tech@hammar.com

Dealer:

Serial Number:



PREPARATION

TOOLS REQUIRED	p 2
UN-PACKING THE LIFT	p 3
WIRING THE VEHICLE	p 4
TRIAL FIT PROCEDURE	p 5

INSTALLATION

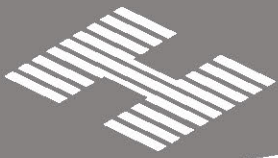
INSTALLATION	p 6
ADJUSTMENTS	p 9
DOCKING DEVICES	p 10

OPERATION

OPERATION	p 11
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TECHNICAL

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TOOLS REQUIRED

THE FOLLOWING IS A SUGGESTION OF BASIC TOOLS RECOMMENDED TO HAVE ON HAND DURING INSTALLATION AS WELL AS A GUIDE TO PORTRAY COMPLEXITY OF THIS TYPE OF INSTALLATION THIS IS, BY NO MEANS, MEANT TO REPRESENT THE REQUIREMENTS AS A WHOLE, AS EACH INSTALLATION WILL VARY TO SOME DEGREE. HARMAR LIFTS ARE DESIGNED TO INSTALL WITH AS LITTLE ASSEMBLY AS POSSIBLE.



SAE SOCKET

7/16"
1/2"
9/16"
3/4"



SAE WRENCH

7/16"
1/2"
9/16"
3/4"



SAE ALLEN WRENCH

5/32"
1/8"
3/16"
5/16"
3/8"



WIRE CUTTERS



NEEDLE NOSE PLIERS

#2 FLAT HEAD SCREWDRIVER



#2 PHILLIPS HEAD SCREWDRIVER



SMALL HACKSAW



ELECTRIC DRILL



MARKING IMPLEMENT



TAPE MEASURE



DRILL BITS

PILOT DRILL BIT
3/8" DRILL BIT
9/16" DRILL BIT



METAL FILE

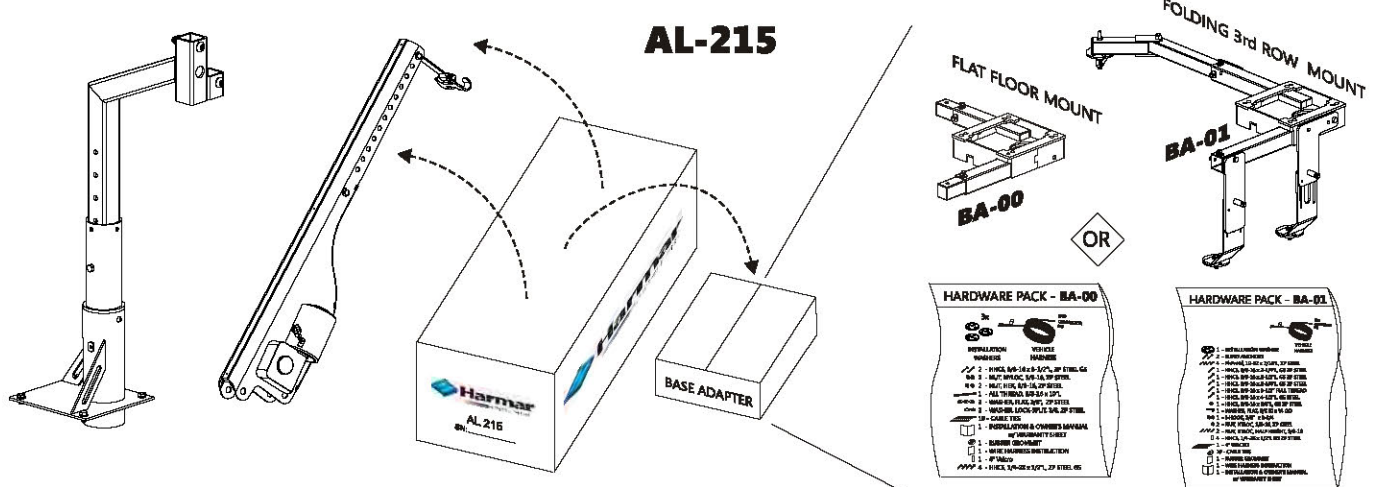
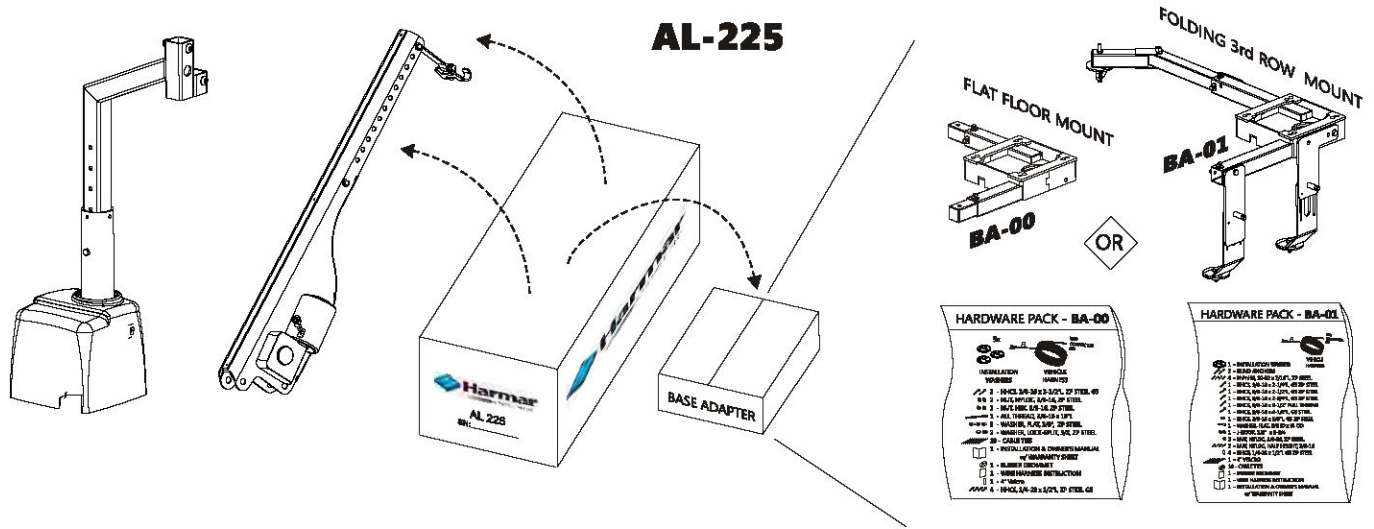
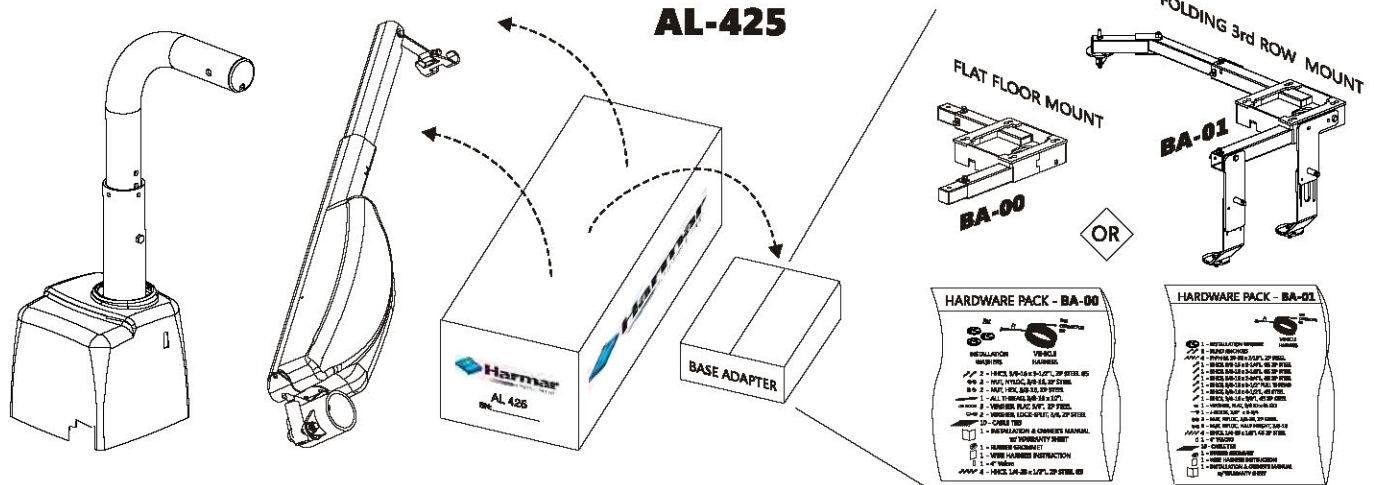
AS ALWAYS, IF YOU HAVE ANY QUESTIONS, CONCERNS, OR COMMENTS, PLEASE FEEL FREE TO CONTACT

HARMAR'S TECHNICAL SERVICE DEPARTMENT @ 1-800-833-0478 or tech@harmar.com

UNPACKING THE LIFT

IF ANY PARTS ARE MISSING OR IF ANY DAMAGE IS NOTED, IMMEDIATELY CONTACT THE DISTRIBUTOR FROM WHICH YOU PURCHASED YOUR LIFT. DO NOT ATTEMPT TO INSTALL OR USE THE LIFT WITH ANY MISSING OR DAMAGED PARTS

BE SURE TO CHECK THE CONTENTS OF THE BOX AGAINST THE PACKAGE CHECK LIST TO BE SURE THAT ALL THE PARTS ARE INCLUDED WITH THE LIFT THAT ARE REQUIRED FOR PROPER INSTALLATION



★ IMPROPER WIRING IS THE #1 CAUSE OF PROBLEMS IN THE OPERATION OF A VEHICLE LIFT.
FOLLOW THE WIRING INSTRUCTIONS CAREFULLY

LOCATED IN THE HARDWARE PACK IS THE VEHICLE WIRING HARNESS. THE HARNESS IS MANUFACTURED TO, AND COMPLIES WITH, THE SAE J1128 REQUIREMENTS. THE WIRE HARNESS IS APPROXIMATELY 23 FT LONG AND WILL ACCOMMODATE MOST VEHICLES.

YOUR WIRING HARNESS HAS BEEN LEFT UN-ASSEMBLED FOR EASE OF INSTALLATION. THE END CONNECTOR HAS BEEN INCLUDED SEPARATELY FROM THE HARNESS TO ALLOW THE INSTALLER TO RUN THE WIRE UNDER AND THROUGH THE VEHICLE WITH THE SMALLEST CLEARANCE POSSIBLE. FOLLOW THESE INSTRUCTIONS TO ASSURE PROPER INSTALLATION. DO NOT CONNECT RED WIRE UNTIL THE VERY END.

UNWIND THE HARNESS AND LAY IT FLAT. ONE END OF THE HARNESS HAS 2 COVERED PINS. THIS IS THE LIFT END OF THE HARNESS AND GOES TO THE REAR CARGO AREA WHERE THE LIFT WILL MOUNT.

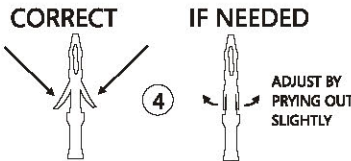
① BEGIN ROUTING THE WIRING HARNESS AT THE VEHICLE BATTERY. ATTACH THE BLACK WIRE TO THE NEGATIVE TERMINAL ON THE BATTERY. DO NOT ATTACH THE RED WIRE UNTIL THE END.

② RUN THE WIRING HARNESS UNDER OR WHEN POSSIBLE THROUGH THE VEHICLE, BACK TO THE REAR CARGO AREA / TRUNK. ALWAYS LOCATE THE WIRING WHERE IT CAN NOT BE SNAGGED BY ROAD DEBRIS AND AWAY FROM THE GAS TANK. THROUGH THE VEHICLE IS BEST, GAINING ENTRY INTO THE VEHICLE THROUGH THE FIREWALL. HOWEVER IF YOU WISH TO RUN THE HARNESS UNDER THE VEHICLE, A HOLE WILL MOST LIKELY NEED TO BE DRILLED TO GET THE WIRE INTO THE REAR CARGO AREA / TRUNK. USED SUPPLIED GROMMET IN HOLE TO PROTECT THE WIRE. IF THE HARNESS IS TOO LONG FOR THE VEHICLE, COIL THE EXCESS WIRE AND SECURE IT TO THE VEHICLE FRAME WITH SUPPLIED TIE WRAPS. DO NOT CUT OR SHORTEN THE HARNESS.

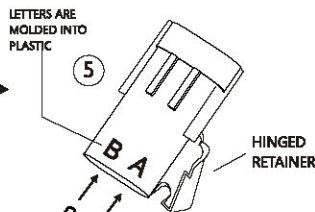
③ ONCE THE HARNESS IS RUN INTO THE VEHICLE, REMOVE PIN'S PROTECTIVE TUBING.



④ INSPECT THE PIN'S RETAINING FLANGES. THEY MAY HAVE BECOME DEFORMED WHILE RUNNING THEM THROUGH THE VEHICLE. THESE ARE CRITICAL TO SECURE THE PINS INSIDE THE END CONNECTOR. ADJUST AS NEEDED.



⑤ FLIP OPEN END CONNECTOR'S HINGED RETAINER. INSERT PINS AS SHOWN: **B=BLACK, A=RED**

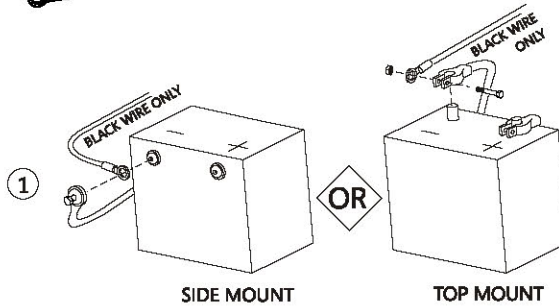
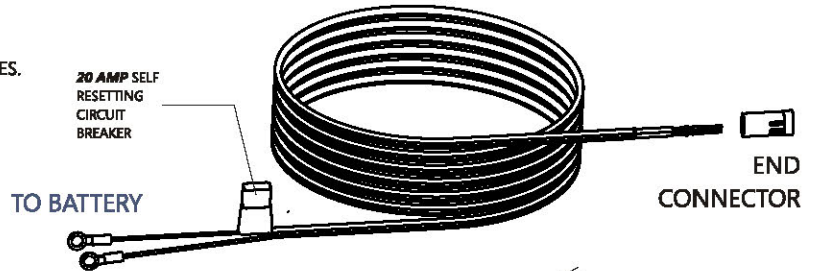


VERIFY THE WIRES CAN NOT BE PULLED OUT BY MODERATELY PULLING ON WIRE.

BE SURE WIRE SEALS ARE INSIDE CONNECTOR, AND CLOSE THE END CONNECTOR'S HINGED RETAINER.

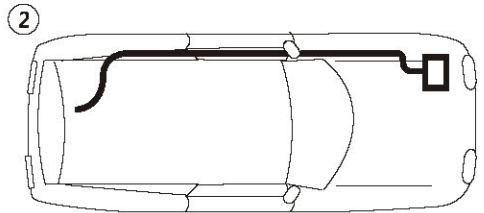
PLUG CONNECTOR INTO LIFT

⑥ LAST: ATTACH RED WIRE TO THE POSITIVE TERMINAL ON THE BATTERY



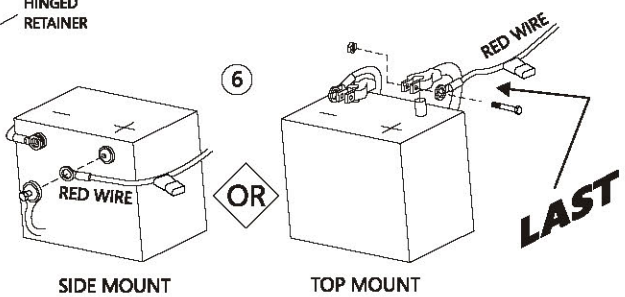
NEVER ATTEMPT TO CONNECT THE HARNESS TO A SECONDARY POWER SOURCE. ALWAYS CONNECT BOTH LEADS DIRECTLY TO THE BATTERY

② WHEN THE INSTALLATION REQUIRES THE WIRING HARNESS BE RUN ON THE UNDERSIDE OF THE VEHICLE, ROUTE THE HARNESS AWAY FROM THE EXHAUST SYSTEM, BRAKE LINES, FUEL LINES < GAS TANK, PINCH POINTS, AND SHARP EDGES. LOCATE THE WIRING HARNESS WHERE IT CAN NOT BE SNAGGED BY ROAD DEBRIS

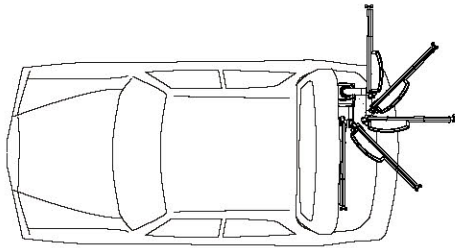


PROBING FOR 12 VOLTS MAY INDICATE A CONNECTION, BUT NOT NECESSARILY A SUFFICIENT CONNECTION. THE LIFT'S MOTOR CAN DRAW UP TO 30 AMPS AT SOME POINTS, REQUIRING ALL OF THE AVAILABLE WIRE TO FLOW PROPER CURRENT. POOR CONNECTIONS ARE THE #1 PROBLEM ASSOCIATED WITH A SLOW, INTERMITTENT, WARM, POORLY PERFORMING MOTOR. NOT ONLY WILL THE MOTOR PERFORM POORLY, BUT WILL PREMATURELY DETERIORATE.

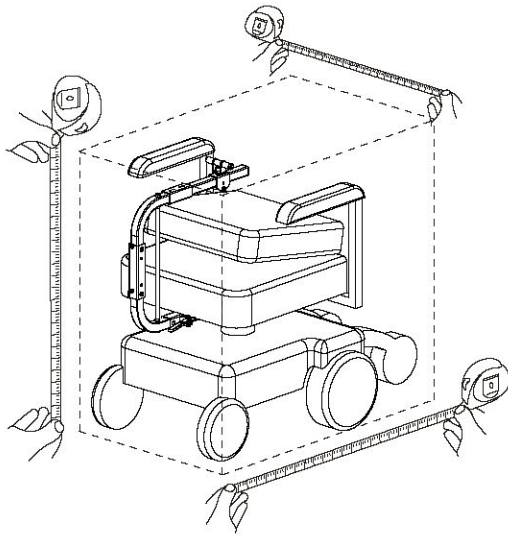
IF A SINGLE STRAND OF A MULTI-STRAND WIRE IS MAKING CONTACT, 12V WILL APPEAR ON THE METER OR TEST LIGHT, BUT WILL NOT ALLOW THE MOTOR TO OPERATE. IT IS ALWAYS BEST TO TEST BOTH CURRENT AND VOLTAGE, OR RUN THE MOTOR WITH KNOWN GOOD SHOP BATTERY OR POWER SOURCE WHEN TESTING FOR POWER.



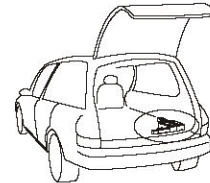
TRIAL FIT PROCEDURE



THE AL-425 / AL-225 / AL-215 WILL REQUIRE 3 HOLES BE DRILLED IN THE VEHICLE, TO BOLT THE LIFT'S BASE TO THE FLOOR. THE POSITIONING OF THE BASE IS *VERY IMPORTANT* TO THE SUCCESSFUL INSTALLATION AND OPERATION OF THIS LIFT. PRIOR TO ANY HOLES BEING DRILLED, IT IS *HIGHLY* RECOMMENDED THE LIFT BE RUN THROUGH ITS RANGE OF MOTION WHERE THE BASE IS THOUGHT TO BE MOUNTED.

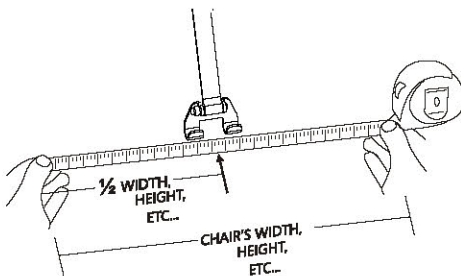
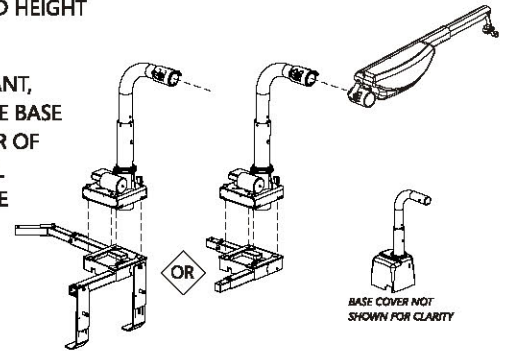


- 1 PLACE THE BASE IN THE VEHICLE
(PASSENGER SIDE SHOWN. DRIVER'S SIDE IDENTICAL BUT MIRRORED)



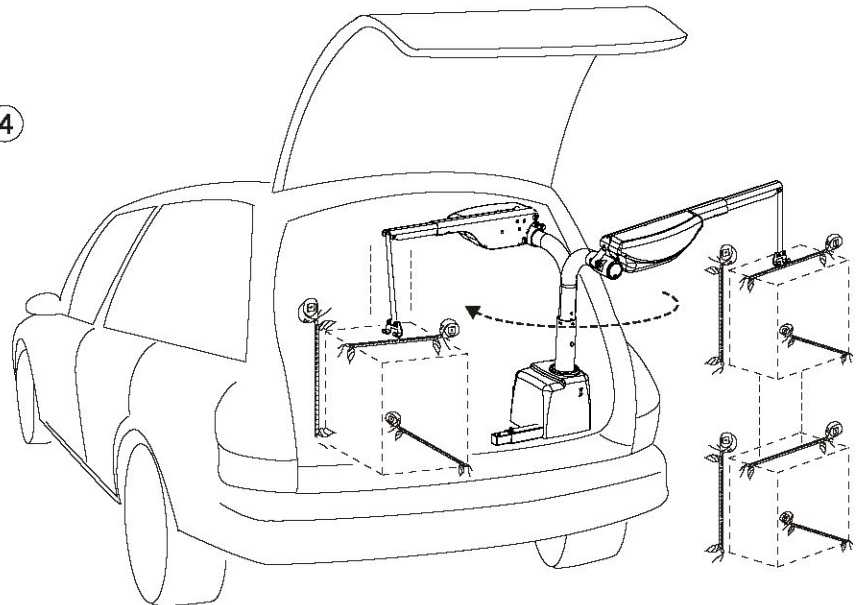
- 2 FOLD THE CHAIR OR SCOOTER'S SEAT BACK (or REMOVE SEAT) PREFERABLY WITH DOCKING DEVICE INSTALLED TO ROUGHLY OBSERVE THE CHAIR'S TRANSPORTABLE DIMENSIONS. MEASURE LENGTH, WIDTH, AND HEIGHT

- 3 WITH THE HELP OF AN ASSISTANT, PLACE THE LIFT ON TOP OF THE BASE IN THE EXTREME BACK CORNER OF THE CARGO SPACE. (THIS WILL YIELD THE GREATEST AVAILABLE LOADING AREA.) SLIDE THE ARM ON THE POST.

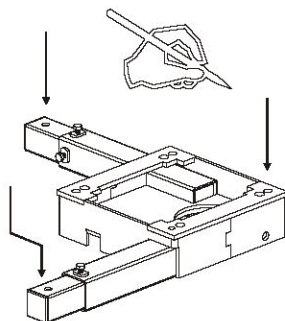


SIMULATE EACH OF THE CHAIR'S DIMENSIONS (LENGTH, WIDTH, and HEIGHT) WHILE RUNNING THE LIFT THROUGH ITS FULL RANGE OF MOTION IN AND OUT OF THE VEHICLE'S CARGO AREA

- 4



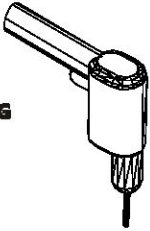
- 5 ONCE IT HAS BEEN VERIFIED EACH OF THE HELD MEASUREMENTS DOES NOT INTERFERE WITH THE VEHICLE'S CARGO AREA / OPENING, MARK THE 3 LOCATIONS IN WHICH TO DRILL



BA-00 INSTALLATION

ONCE CONFIDENCE HAS BEEN GAINED ON THE POSITION OF THE LIFT, AND THE "TRIAL FIT" PROCEDURE HAS BEEN COMPLETED, THREE 3/8" HOLES WILL NEED TO BE DRILLED IN THE MARKED LOCATIONS

CAUTION! AVOID THE VEHICLE WIRING, FUEL LINES, FUEL TANKS SPARE TIRES, ETC. WHEN DRILLING



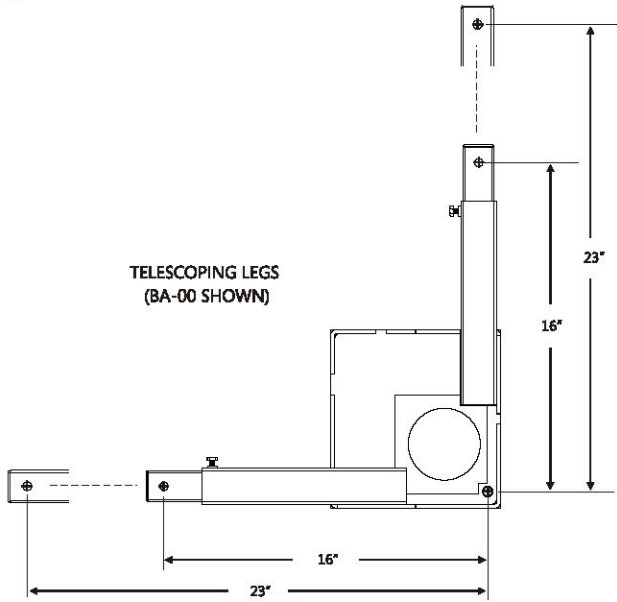
INSTALLATION TIP:

CHOOSE A SAFE LOCATION IN WHICH TO DRILL A SINGLE PILOT HOLE FROM ABOVE IN ONE OF THE 3 MARKED LOCATIONS.

LOOK UNDERNEATH THE VEHICLE AND MEASURE OUT THE SPECIFIED DISTANCE FROM THE PILOT HOLE.

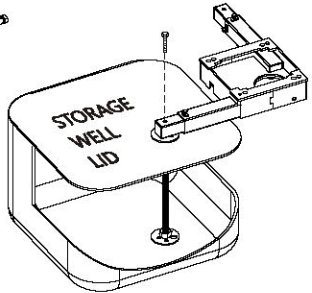
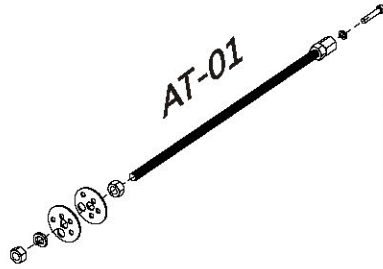
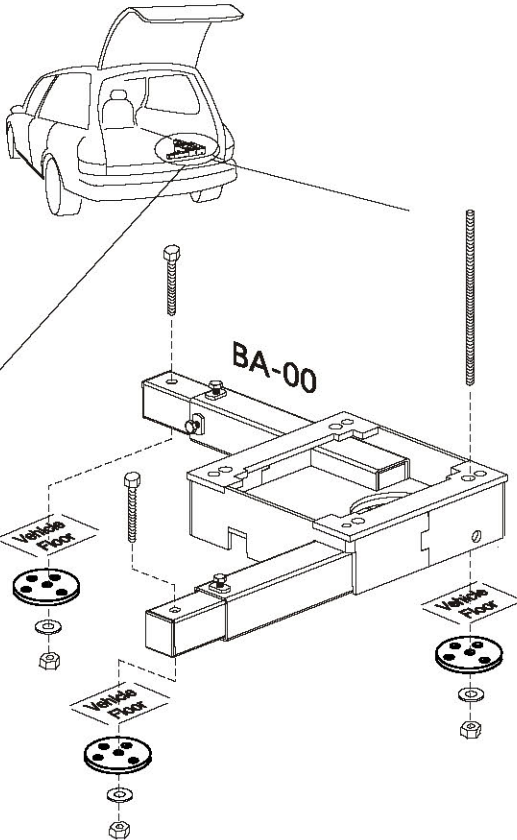
IF ALL IS CLEAR IN THAT AREA, CONTINUE TO DRILL PILOT HOLES IN REMAINING LOCATIONS.

INSPECT ALL THREE PILOT HOLES FROM UNDER THE VEHICLE. IF ALL CLEAR, DRILL 3/8" HOLES IN PILOT LOCATIONS



ALL THREAD KIT MAY BE REQUIRED

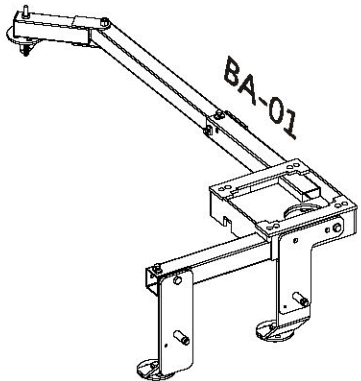
ONCE HOLES ARE DRILLED, FASTEN BASE TO VEHICLE FLOOR USING SUPPLIED HARDWARE IN THE HARDWARE PACK. BE SURE TO TIGHTEN ALL FASTENERS.



SOME VEHICLES HAVE STORAGE COMPARTMENTS IN THE REAR CARGO AREA, POTENTIALLY EFFECTING LIFT PLACEMENT. MOST OF THESE CAN BE OVERCOME WITH THE AID OF AN ALL THREAD KIT, SHOWN ABOVE IS THE TYPICAL APPLICATION FOR OVERCOMING THESE STORAGE COMPARTMENTS OR WELLS.

SPARE TIRE STORAGE: SOME VEHICLES STORE THE SPARE TIRE UNDER THE FLOOR OF THE VEHICLE. MAKE SURE THAT THE BASE CAN BE BOLTED THROUGH A STEEL FLOOR OR FRAME.

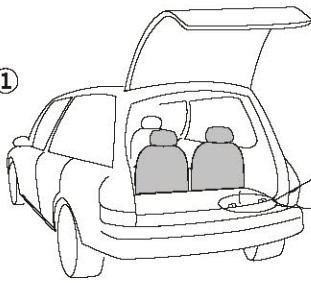
IF VEHICLE IS EQUIP w/ THIRD ROW FOLDING SEATS, BA-01 IS REQUIRED. REFER TO THE NEXT PAGE FOR SPECIFIC BA-01 INSTRUCTIONS.



BA-01 INSTALLATION

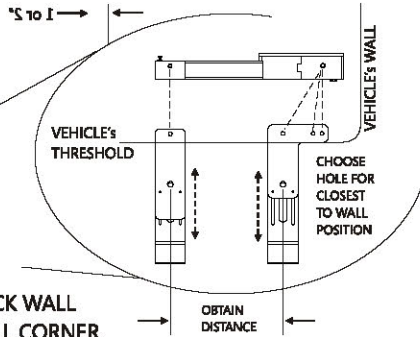


1

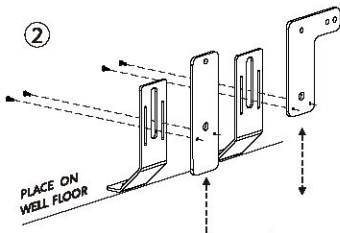


FOLD-UP THIRD ROW SEATING

PLACE VERTICAL JOINERS ON BACK WALL OF SEATING WELL CORNER. USE BASE AS TEMPLATE FOR POSITION.

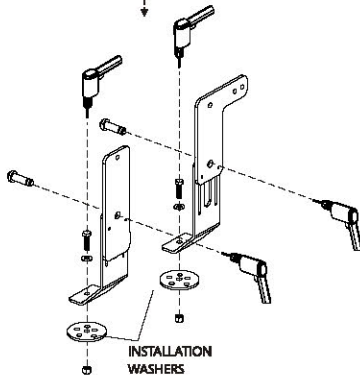


2



ESTABLISH HEIGHT BY HAVING MOUNTING HOLES PEER OVER THRESHOLD ATTACH JOINERS USING SMALL SCREWS PROVIDED TO LOCK HEIGHT

3

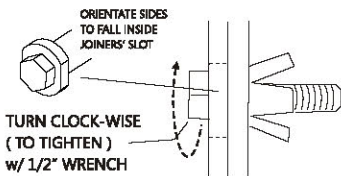


DRILL TWO 9/16" HOLES THRU BACK WELL WALL USING JOINERS AS TEMPLATE TO ACCEPT HOLLO BOLT

BOTH PREFERRED INSTALLATION

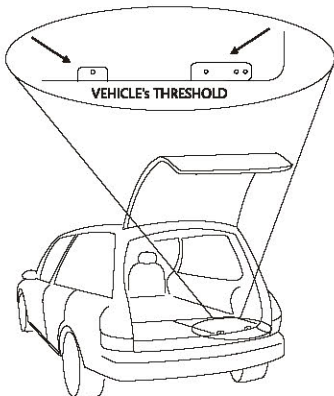
DRILL TWO 3/8" HOLES IN FLOOR OF WELL USING JOINERS AS TEMPLATE. FASTEN 3/8" HARDWARE (x2)

4 INSTALL HOLLO BOLTS (x2)

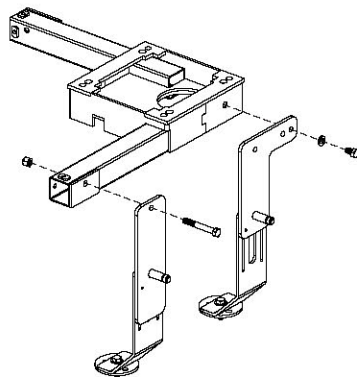


TIGHTEN TO APPROX. 17 LBS/FT METAL IN BACK WILL EXPAND TO LOCK BOLT IN PLACE

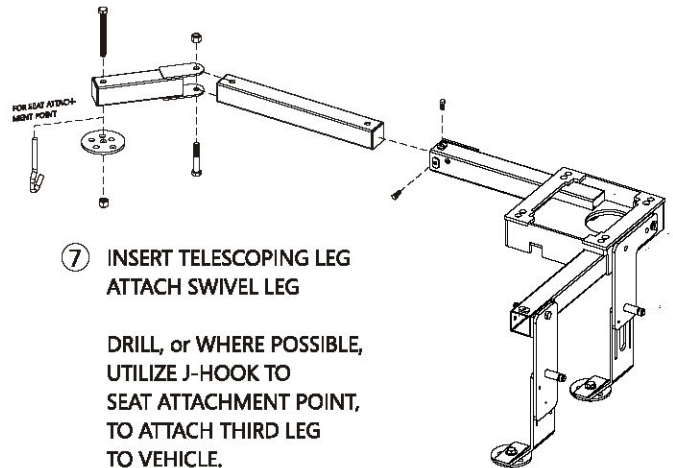
5 FOLD THIRD ROW SEATING BACK INTO WELL. VERIFY VERTICAL JOINER MOUNT HOLES ARE ABOVE THRESHOLD



6 ATTACH VERTICAL JOINERS TO BASE USING SUPPLIED HARDWARE AS INDICATED.

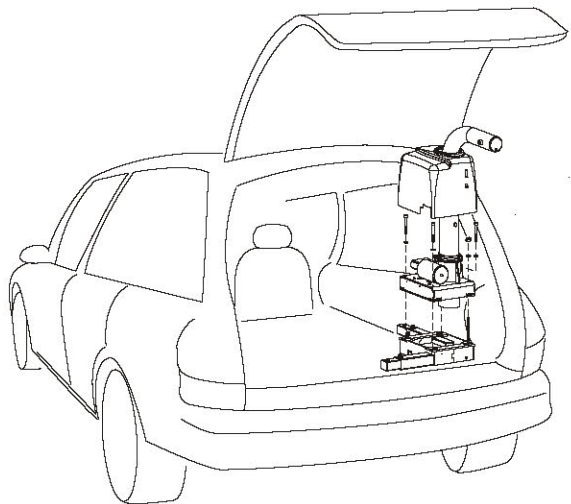


7 INSERT TELESCOPING LEG ATTACH SWIVEL LEG



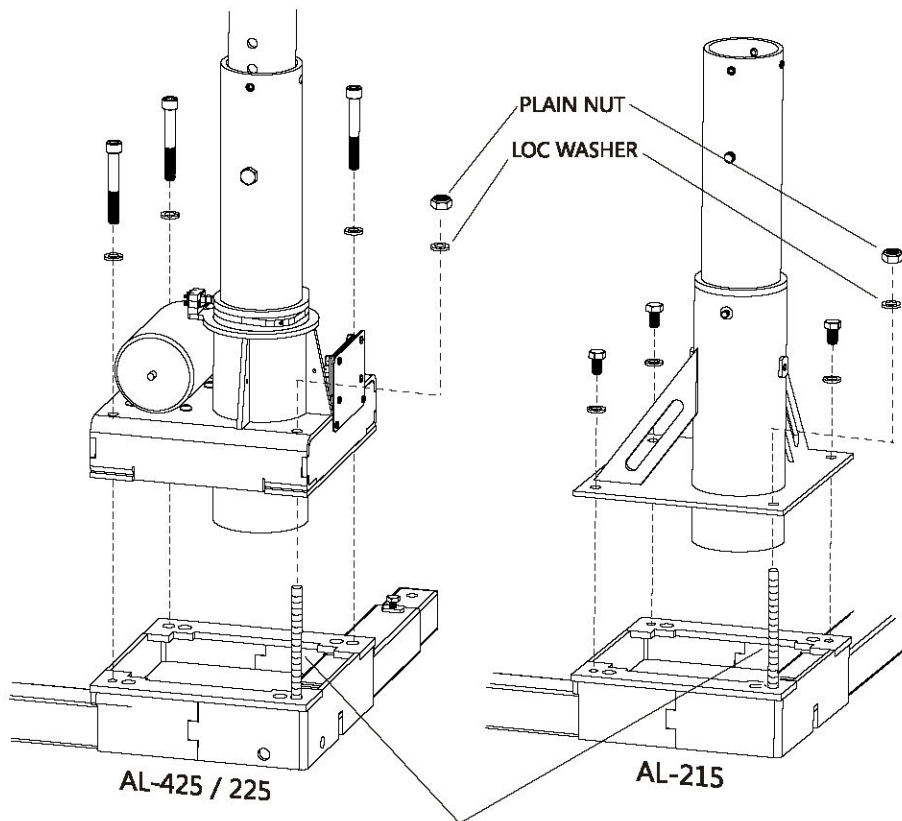
DRILL, or WHERE POSSIBLE, UTILIZE J-HOOK TO SEAT ATTACHMENT POINT, TO ATTACH THIRD LEG TO VEHICLE.

TIGHTEN ALL FASTENERS



ONCE BASE IS FASTENED TO THE VEHICLE, RAISE PLASTIC COVER, AND ATTACH LIFT TO BASE.

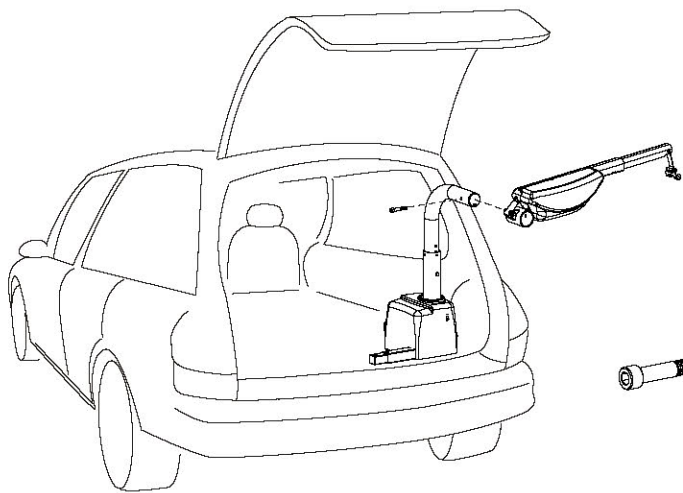
BE SURE TO COMPRESS ALL SPLIT LOCK WASHERS. (TIGHTEN ALL FASTENERS)



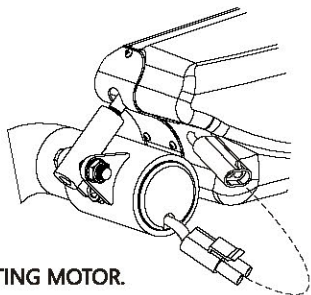
AL-425 / 225

AL-215

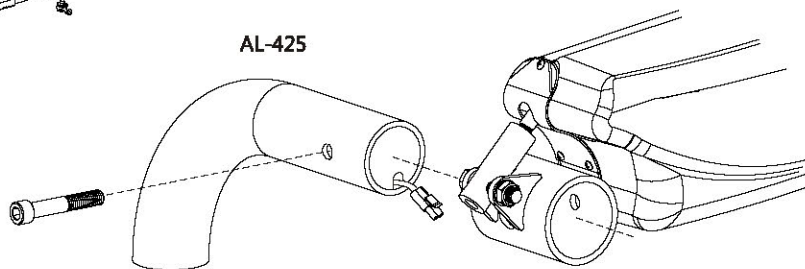
CUT OFF REMAINING ALL THREAD ONCE NUT IS TIGHTENED AGAINST WASHER. THIS WILL ALLOW NUT REMOVAL TO DEBURR THREAD AS IT IS REMOVED.



ATTACH LIFTING ARM AS SHOWN.

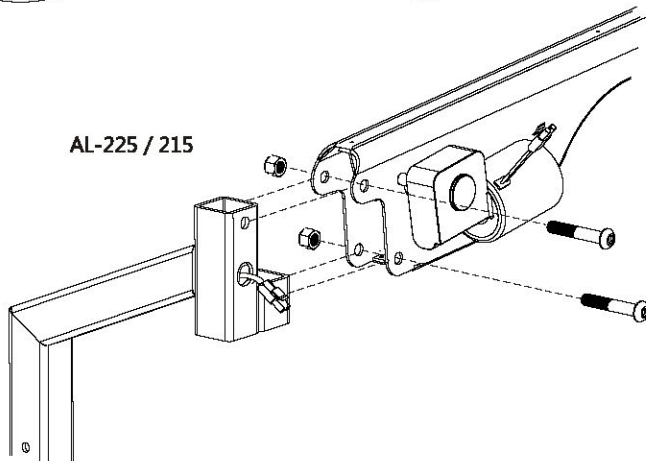


PLUG IN LIFTING MOTOR.



AL-425

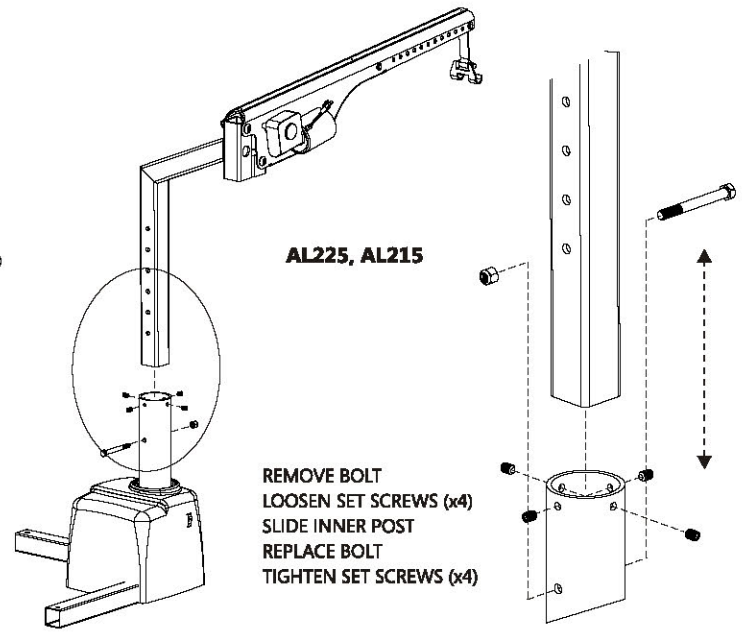
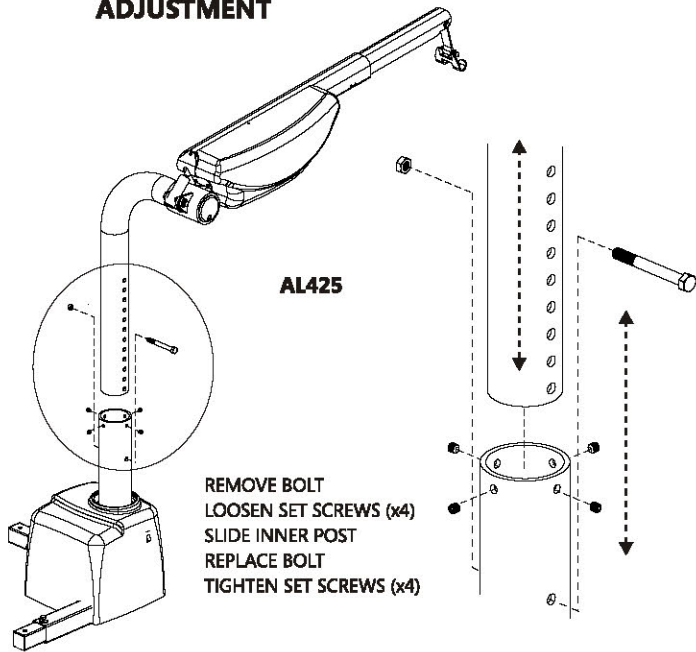
AL-225 / 215



ADJUSTMENTS

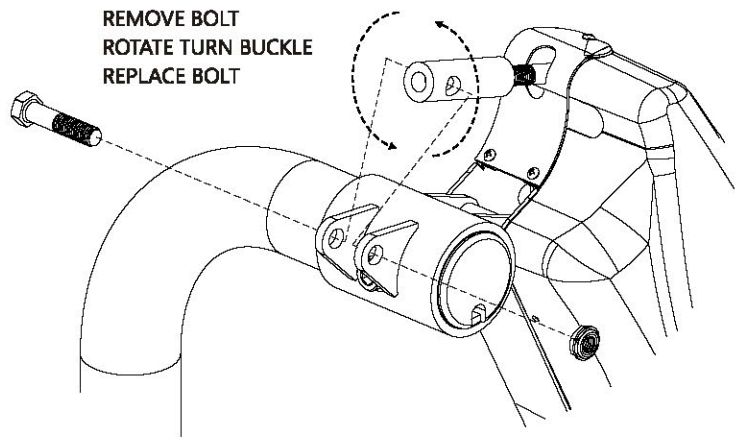
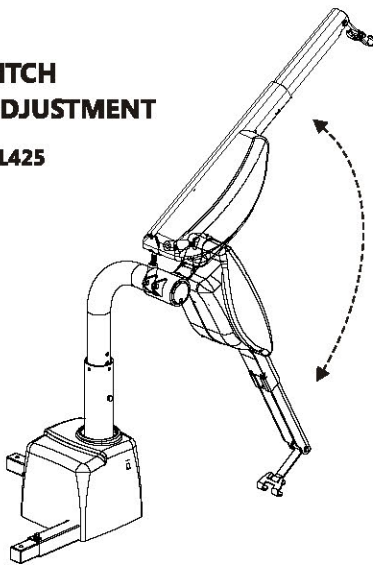


HEIGHT ADJUSTMENT

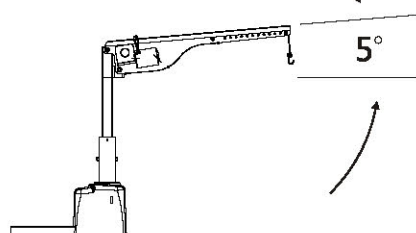


PITCH ADJUSTMENT

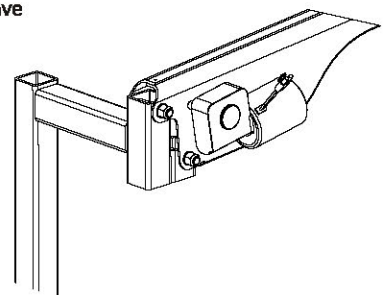
AL425



AL225, AL215



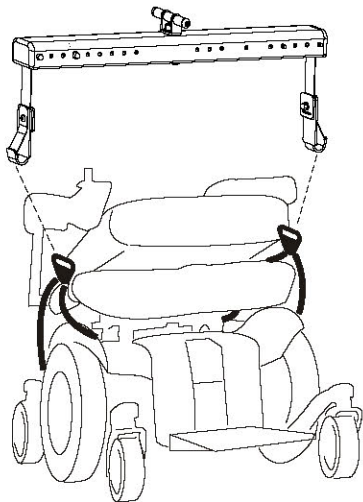
The AL225 and AL215 have manufactured 5 degree pre-load, and should need no adjustment



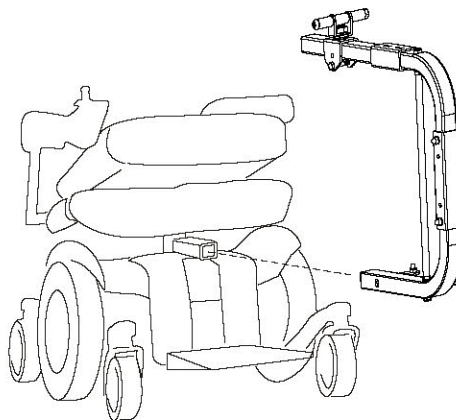


The Docking Device is the interface between the lift and the Chair / Scooter.

Most chairs / scooters can be lifted either by the center seat post or the 4 post seat frame.



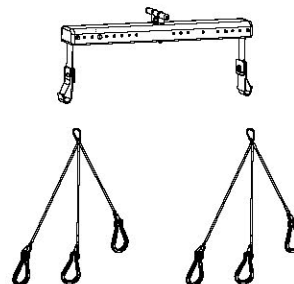
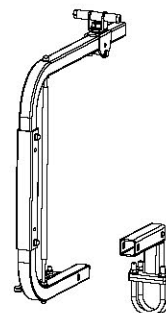
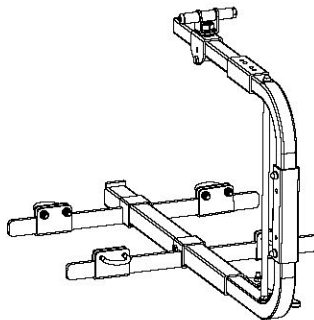
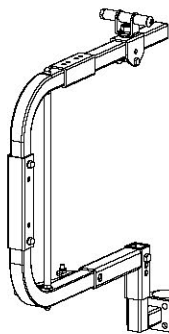
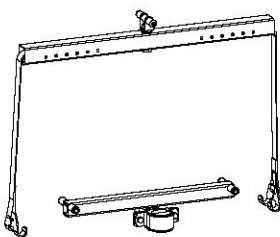
DD-21
Spreader Bar &
Bridles

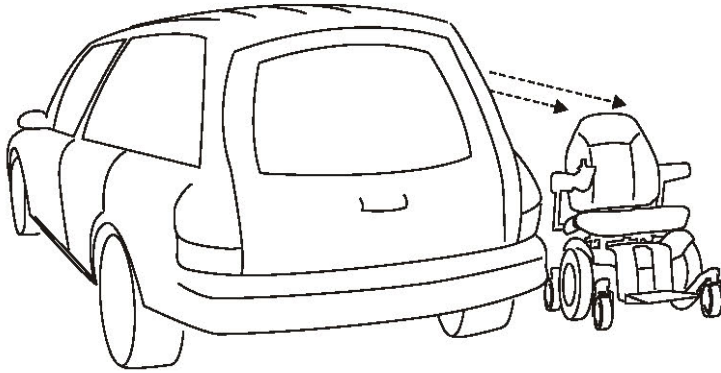


DD-19
C-Arm

Although most chairs / scooters can be lifted by the above Docking Devices, Many specific devices exist making the application even easier.

Please consult the instruction provided with your Docking Device, or contact our technical service department to find out exactly how this device is right for you.



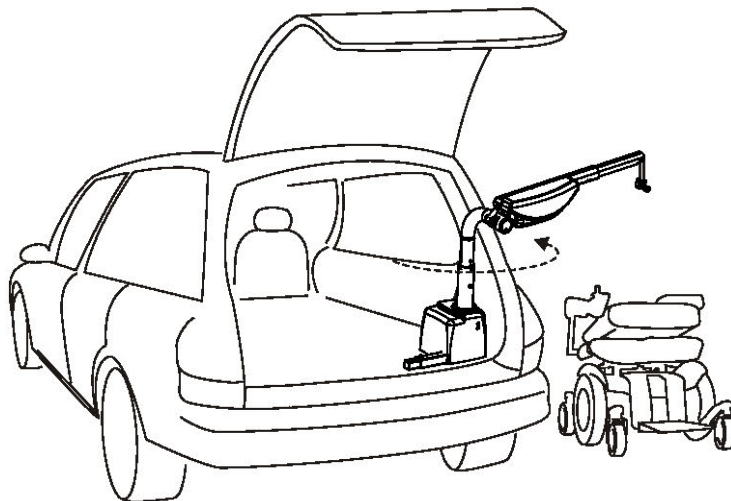
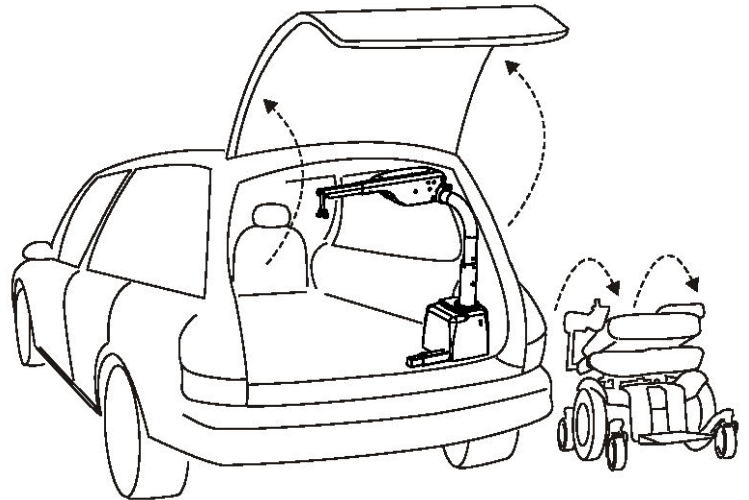


Park power chair or scooter for pick-up along side (parallel to) the vehicle.

ALWAYS MAKE SURE THE VEHICLE'S PARKING BRAKE IS FIRMLY SET

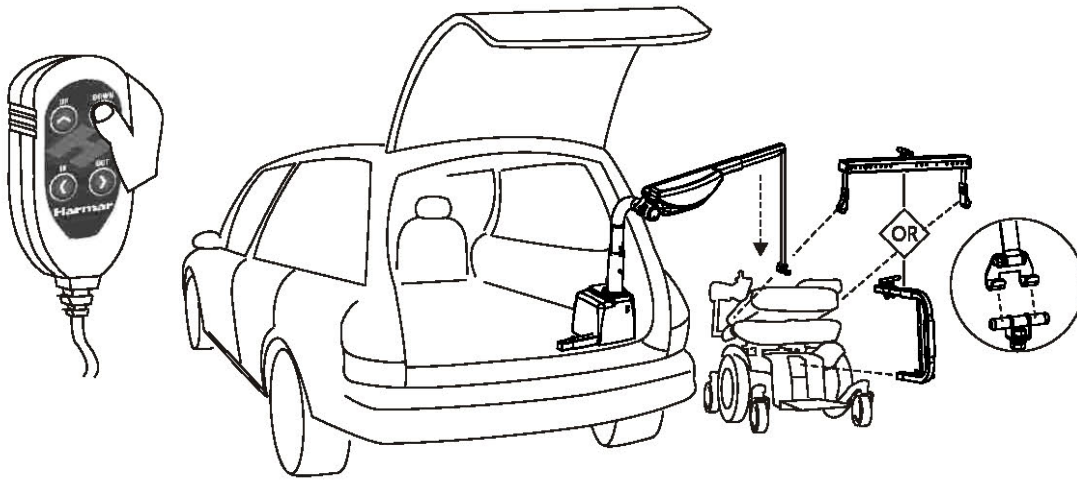
Open the hatch of the vehicle
Fold the seat-back of the chair or scooter.

KEEP HANDS AND FEET FROM UNDER THE CHAIR OR SCOOTER AS IT IS BEING LIFTED



Press the "OUT" button on the hand controller, to rotate the arm outside the vehicle.

(If using AL-215, manually rotate lifting arm outside of vehicle)

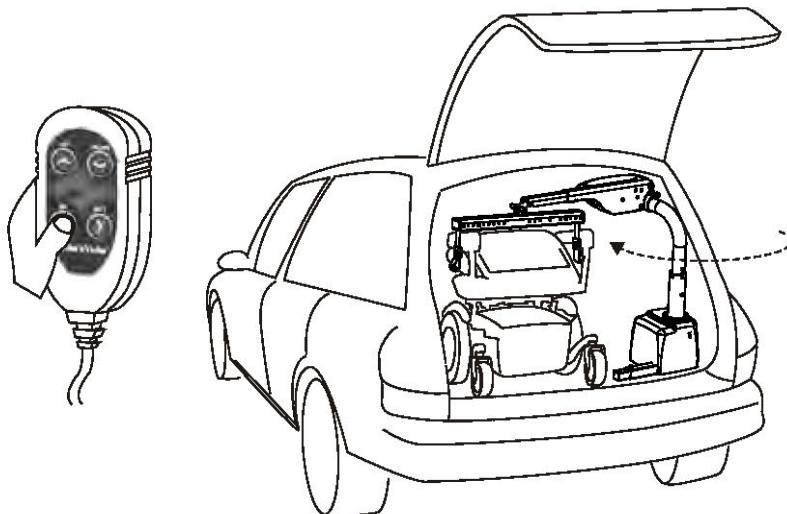
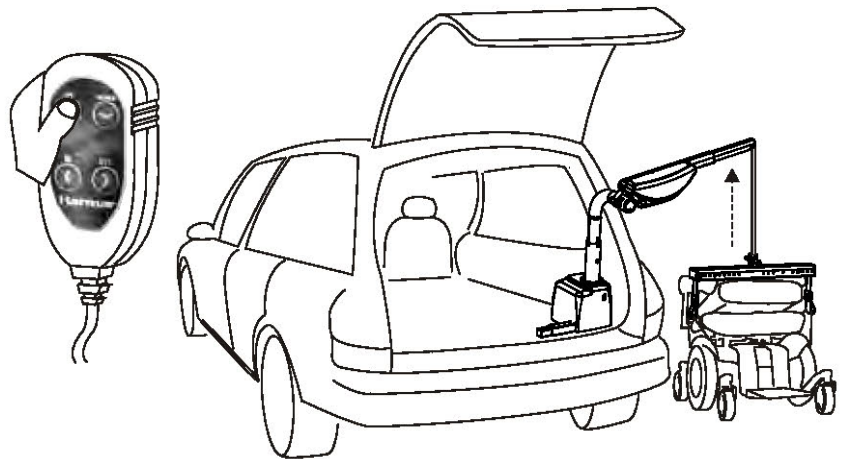


Once outside, press the "DOWN" button to lower the strap.
Attach the docking device supplied with your lift.
Attach the strap hook to the docking device.

INSPECT LIFTING STRAP PRIOR TO EACH USE

Press the "UP" button to begin raising your power chair or scooter.

ENSURE THE LIFTING STRAP IS SECURE AND THAT IT POINTS STRAIGHT DOWN. FAILURE TO DO SO COULD RESULT IN THE SCOOTER OR CHAIR SWINGING, CAUSING DAMAGE TO OPERATOR, CHAIR OR VEHICLE.



Once the chair has been raised enough to clear the bumper / threshold, rotate the chair or scooter into the vehicle by pressing the "IN" button.

(If using AL-215, manually rotate lifting arm inside of vehicle)

Once the chair or scooter is fully inside the cargo area, Press "Down" until the chair or scooter is firmly placed on the floor

Leave some tension on the strap during transport to eliminate movement of the chair, or docking device.

Unloading is the reverse of loading.



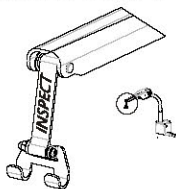
SAFETY:

CAUTION: DO NOT OPERATE THIS LIFT UNTIL YOUR DEALER HAS SATISFACTORILY INSTRUCTED YOU IN THE PROPER OPERATION OF THE LIFT.

YOUR HARMAR INSIDE LIFT HAS BEEN ENGINEERED AND DESIGNED FOR YEARS OF TROUBLE FREE USE. ALTHOUGH, WITH EVERYDAY USE, SOME PARTS MAY BECOME LOOSE OR WORN. **IMPORTANT!** CHECK REGULARLY FOR ANY WORN, LOOSE, OR DAMAGED PARTS OF YOUR LIFT. **IF ANYTHING IS OBSERVED, DO NOT USE THE LIFT!** CONTACT YOUR DEALER OR INSTALLER OF THE LIFT FOR REPAIRS TO BE MADE. **FAILURE TO ACT MAY CAUSE SEVERE INJURY**

YOUR HARMAR INSIDE LIFT SHOULD ONLY BE USED FOR THE LOADING AND UNLOADING OF SCOOTERS AND POWER WHEELCHAIRS FOR WHICH IT IS DESIGNED. IF YOUR PARTICULAR APPLICATION (VEHICLE & SCOOTER/CHAIR) CHANGES (ex. BUY A NEW CAR / UPGRADE TO A NEW POWER CHAIR) PLEASE CONSULT YOUR INSTALLER OR DEALER, AS THE ORIGINAL EQUIPMENT MAY NOT CONFIGURE THE SAME. DO NOT ADD TO OR MODIFY ANY PART OF THE LIFT SYSTEM WITHOUT FIRST CONSULTING THE MANUFACTURER OF THE LIFT. ANY MODIFICATIONS MAY VOID ANY WARRANTIES AS WELL AS THE STRUCTURAL INTEGRITY OF THE LIFT.

ALWAYS CHECK THE LIFTING STRAP BEFORE EACH USE FOR DAMAGE OR WEAR



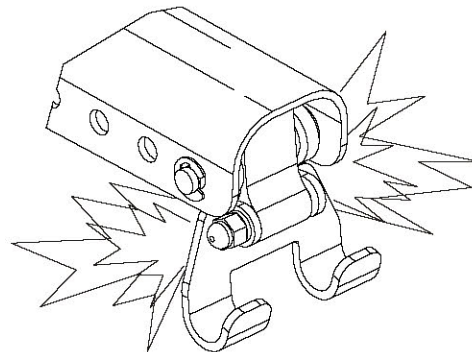
IF THERE IS ANY SIGN OF TEARING / LOOSE THREADS / DAMAGE / WEAR **DO NOT USE THE LIFT.** SEVERE DAMAGE TO CHAIR / SCOOTER / VEHICLE AND PERSONAL INJURY MAY OCCUR. PLEASE CONTACT YOUR DEALER OR INSTALLER, AND HAVE THE STRAP REPLACED IMMEDIATELY.

CAUTION: WHEN ATTACHING THE STRAP HOOK TO YOUR CHAIR / SCOOTER, INSURE THE LIFTING STRAP IS SECURE AND TAUGHT AND THAT IT POINTS STRAIGHT DOWN BEFORE LIFTING. FAILURE TO DO SO COULD RESULT IN THE SCOOTER OR CHAIR SWINGING TOWARD THE OPERATOR OR THE VEHICLE.

CAUTION: WHEN USING THE LIFT, KEEP YOUR HANDS AND FEET FROM UNDER THE CHAIR / SCOOTER AS IT IS BEING LOADED OR UNLOADED.

CAUTION: STOP LIFTING BEFORE THE STRAP HOOK CONTACTS THE STRAP ROLLER MOUNTED ON THE LIFTING ARM. CONTACT WILL RESULT IN DAMAGE TO THE LIFT. A PROPERLY ADJUSTED AND OPERATED LIFT WILL AVOID THIS.

CAUTION: INSURE THE CHAIR / SCOOTER IS FIRMLY SITTING ON THE FLOOR OF THE VEHICLE AND NOT SUSPENDED BY THE LIFT DURING TRANSPORTATION. IF THE SCOOTER / CHAIR IS NOT FIRMLY ON THE FLOOR OF THE VEHICLE, IT MAY MOVE DURING TRANSPORTATION CAUSING DAMAGE TO THE LIFT, TO THE VEHICLE, TO THE SCOOTER / CHAIR, OR TO THE PASSENGERS.



MAINTENANCE:

YOUR HARMAR INSIDE LIFT HAS BEEN DESIGNED AND ENGINEERED TO BE AS TROUBLE FREE AS POSSIBLE TO THE OWNER. BUT, AS WITH ANY MECHANICAL DEVICE, REGULAR CARE SHOULD BE GIVEN WHILE OWNING AN USING THIS DEVICE.

MAINTENANCE IS NO EXCEPTION.

WE RECOMMEND THAT DEALERS SCHEDULE A PREVENTATIVE MAINTENANCE INSPECTION AT LEAST ONCE A YEAR ON MOTORS, LIFT FRAME, WIRING HARNESSSES, AND ALL MOVING PARTS OF THE LIFT.

CHECK FOR PAINT CHIPS AND TOUCH UP AND BARE METAL WITH A GOOD GLOSS BLACK ENAMEL OR LACQUER TO INHIBIT RUST. THIS MAY BE NECESSARY MORE FREQUENTLY WHEN SUBJECTED TO SALT AIR OR ROAD SALT.

ALWAYS CHECK THE LIFTING STRAP BEFORE EACH USE. IF ANY WEAR OR DAMAGE IS NOTICED **DO NOT USE THE LIFT!** CONTACT THE DEALER OR INSTALLER FOR REPAIR. FAILURE TO DO SO WILL RESULT SEVERE INJURY OR DAMAGE.

HAND CONTROL UNITS SHOULD BE PROPERLY STORED INSIDE THE VEHICLE WHENEVER POSSIBLE. IF LIFT IS INSTALLED IN THE BACK OF A PICK-UP TRUCK, WE STRONGLY RECOMMEND UN-PLUGGING THE CONTROL IN BETWEEN USES, AND STORING IN THE CAB. EXPOSURE TO WEATHER IS OK, BUT RAIN FLOODING THE TRUCK BED, AND THE HAND CONTROLLER BEING SUBMERGED IN WATER, COULD CAUSE THE CONTROLLER TO FAIL.

WARRANTY:

THIS LIFT COVERED BY A THREE YEAR FACTORY WARRANTY ON MATERIALS AND WORKMANSHIP. CONTACT YOUR LOCAL DEALER FOR MORE INFORMATION OR GO TO WWW.HARMARMOBILITY.COM

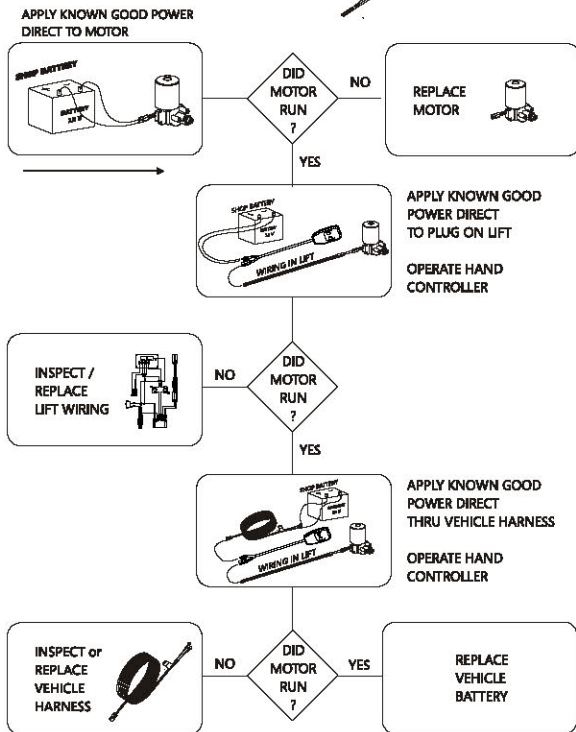
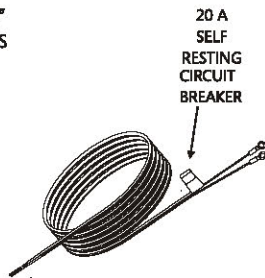
PROBLEM: LIFT WILL NOT OPERATE, OPERATES SLOWLY, or OPERATES INTERMITTENTLY.

REASON: BAD ELECTRICAL CONNECTIONS / CIRCUIT BREAKER

PROCEDURE:
CHECK / CLEAN ALL CONNECTIONS THAT MIGHT BE LOOSE OR DIRTY THIS IS THE #1 CAUSE OF A POORLY PERFORMING LIFT. THE MOTOR ON THE LIFT REQUIRES QUALITY ELECTRICAL CONNECTIONS TO OPERATE AT FULL CAPACITY. ANY BREAK IN THE WIRING WILL SLOW DOWN THE MOTOR, OR CAUSE IT TO OPERATE INTERMITTENTLY. WHICH IN TURN WILL PREMATURELY DETERIORATE THE MOTOR.

THE LIFT'S VEHICLE POWER HARNESS RUNNING THROUGH OR UNDER THE VEHICLE IS SUBJECT TO ROAD DEBRIS, AND RUBBING AGAINST THE VEHICLE'S FRAME, CAUSING A SHORT. INSPECT THE FULL LENGTH OF THE HARNESS TO BE SURE THE JACKET OF INSULATION IS NOT TORN.

THE CIRCUIT BREAKER IS LOCATED ABOUT 6" FROM THE CONNECTIONS TO THE VEHICLE'S BATTERY. THE BREAKER WILL SELF RESET IF OVER-LOADED. HOWEVER, VERIFY (w/ OHM METER or TEST LIGHT) THE BREAKER IS FUNCTIONING, OR REPLACE IT WITH A NEW / KNOWN GOOD CIRCUIT BREAKER, AND PERFORM THE FOLLOWING TESTS.



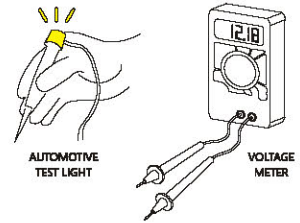
PROBLEM: LIFTING STRAP OPERATES IN REVERSE
REASON: BUTTON WAS HELD TOO LONG AND UNWOUND LIFTING STRAP LIKE A YO-YO, THE LIFTING STRAP WOUND IN REVERSE
PROCEDURE: PRESS WHICH EVER BUTTON EXTENDS STRAP, AND CONTINUE TO HOLD UNTIL STRAP RETURNS TO PROPER DIRECTION

PROBLEM: SCOOTER OR CHAIR TIPS FRONT OR BACK WHILE BEING LIFTED
REASON: CHAIR or SCOOTER IS BEING LIFTED OFF CENTER
PROCEDURE: ADJUST FOR CENTER OF GRAVITY ON DOCKING DEVICE. CHECK TO SEE IF PROPER DOCKING DEVICE IS BEING USED

PROBLEM: LIFTING ARM IS HARD TO ROTATE
REASON: DRY / DIRTY BUSHINGS
PROCEDURE: CLEAN AND LUBRICATE GREY BUSHINGS IN BASE WITH WHITE/LITHIUM GREASE OR EQUIV.

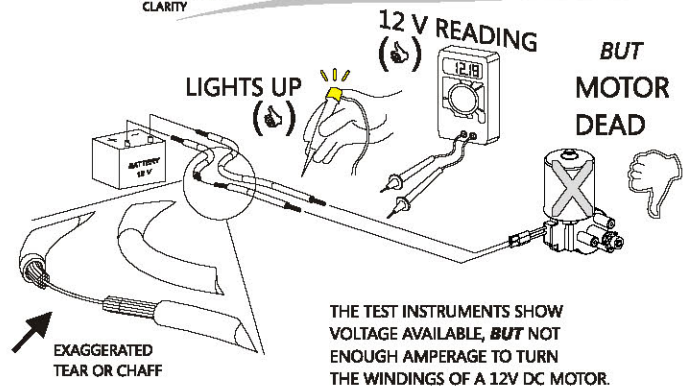
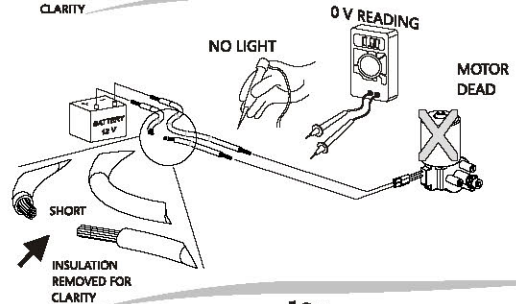
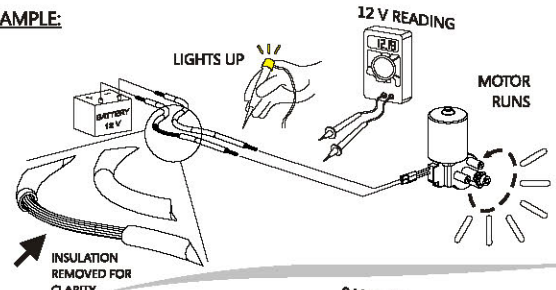
BE CAREFUL WHEN TROUBLESHOOTING WITH A TEST LIGHT, OR VOLTAGE METER. THEY MAY GIVE FALSE INDICATIONS

THIS SECTION IS RESERVED FOR THE INSTALLER / DEALER HARMAR DOES NOT RECOMMEND THESE PROCEDURES BE ATTEMPTED BY ANYONE WITHOUT PROPER KNOWLEDGE OF AUTOMOTIVE ELECTRICAL CIRCUITRY



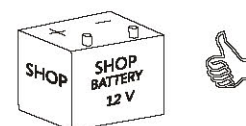
THESE INSTRUMENTS WILL DETECT VOLTAGE, BUT MAY NOT INDICATE A TEAR OR POOR CONNECTION IN THE WIRING

EXAMPLE:

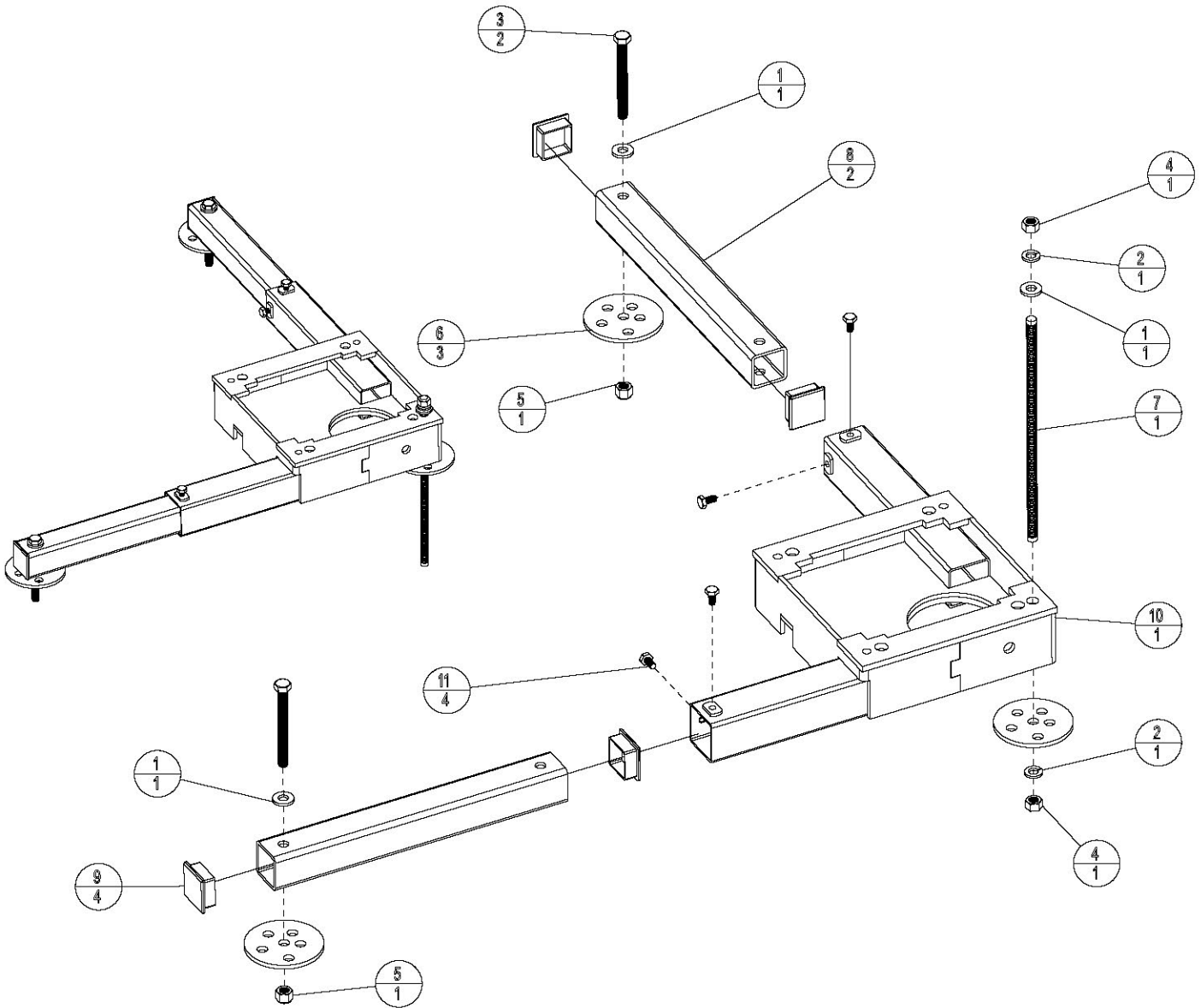


BE CAREFUL WHEN TROUBLESHOOTING WITH A TEST LIGHT, OR VOLTAGE METER. THEY MAY GIVE FALSE INDICATION AS SHOWN ABOVE. THEY WILL ONLY INDICATE THERE IS SOME WIRE CONNECTION--NOT NECESSARILY--ENOUGH.

HARMAR STRONGLY RECOMMENDS TROUBLESHOOTING ELECTRICAL PROBLEMS WITH KNOW GOOD / FULLY CHARGED 12 V AUTOMOTIVE BATTERY or KNOW GOOD / FULLY CHARGED POWER CHAIR/SCOOTER BATTERY

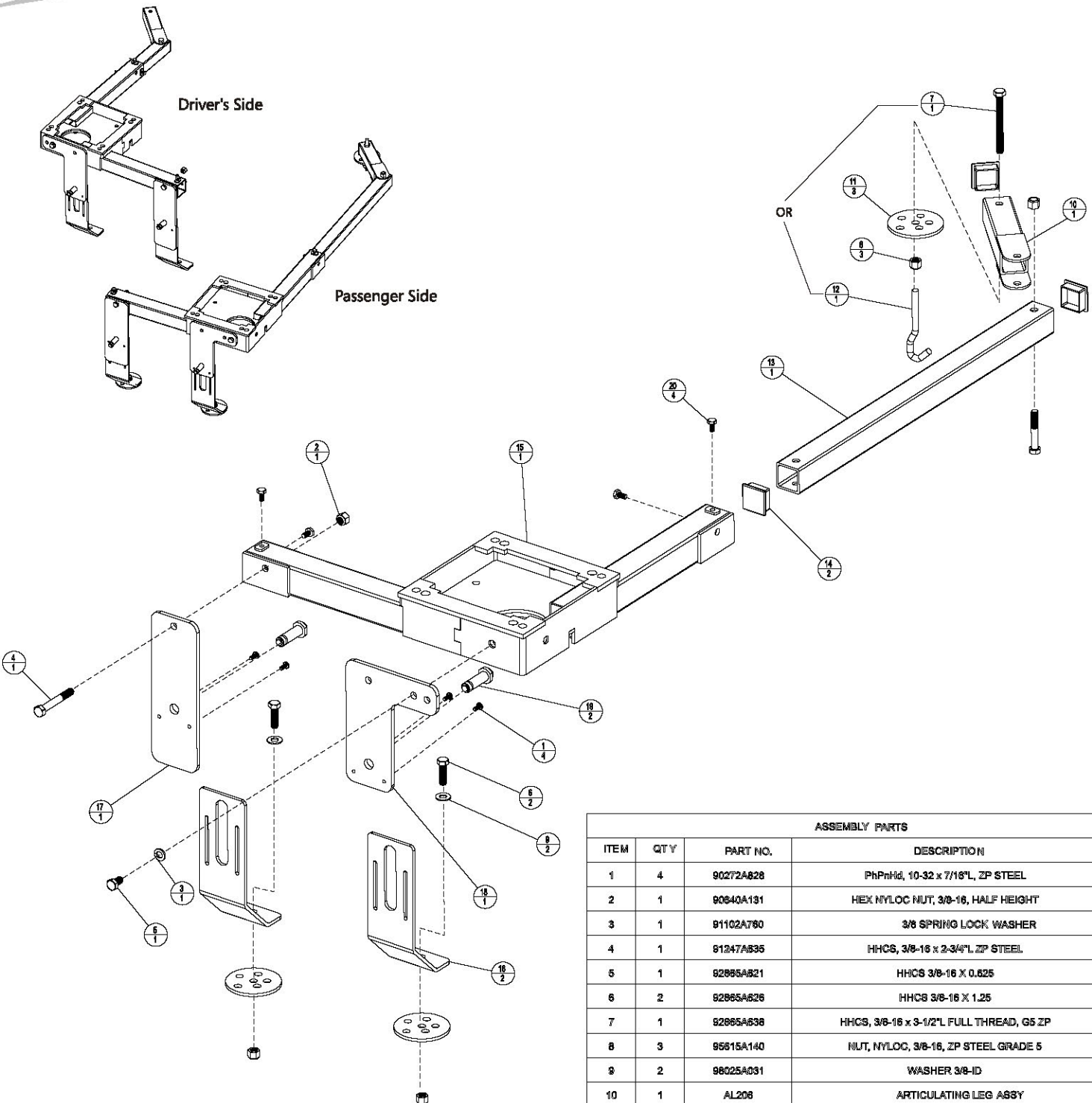


EXPLODED VIEW - BA-00



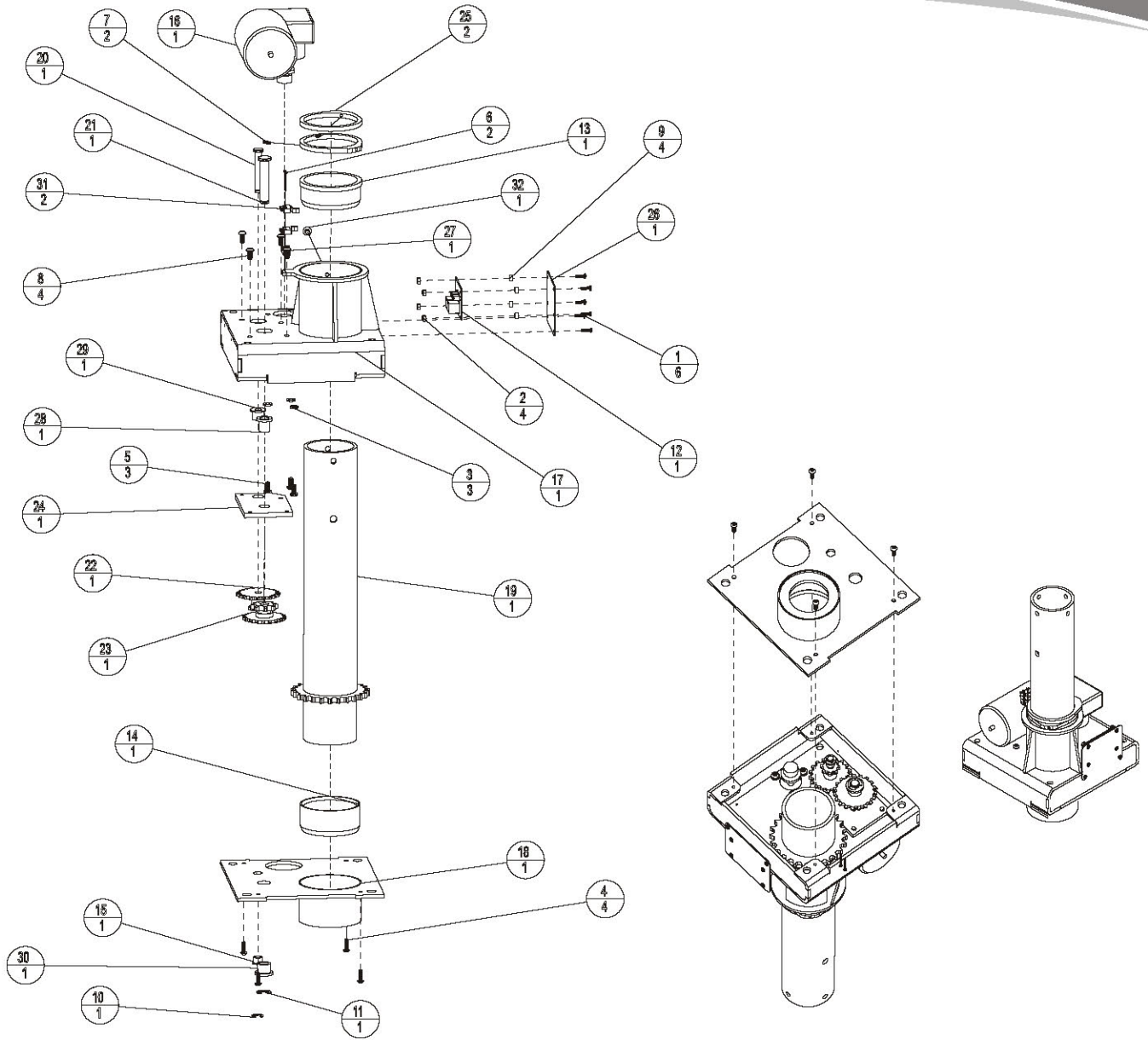
ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION
1	3	3-8_WASHER	3/8 FLAT WASHER ZP STEEL
2	2	91102A760	3/8 SPRING LOCK WASHER
3	2	92885A638	HHCS, 3/8-16 x 3-1/2" L ZP STEEL GRADE 5
4	2	95482A031	HEX NUT, 3/8-16, ZP, GRADE 5
5	2	95616A140	NUT, NYLOC, 3/8-16 ZP STEEL GRADE 5
6	3	ALA28050	INSTALLATION WASHER
7	1	ALA42501	3/8-16 X 10.00 ALL THREAD
8	2	H205	LEG, EXTENSION
9	4	H4205	CAP for 1.5sq x .120w Tube
10	1	H425100	BASE HOUSING WELD
11	4	HHCS__	1/4-28 x 1/2"

EXPLODED VIEW - BA-01

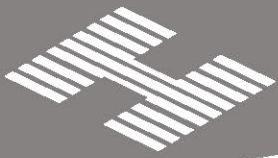


ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION
1	4	90272A828	PhPhd, 10-32 x 7/16" L, ZP STEEL
2	1	90840A131	HEX NYLOC NUT, 3/8-16, HALF HEIGHT
3	1	91102A760	3/8 SPRING LOCK WASHER
4	1	91247A835	HHCS, 3/8-16 x 2-3/4" L, ZP STEEL
5	1	92895A821	HHCS 3/8-16 X 0.625
6	2	92895A826	HHCS 3/8-16 X 1.25
7	1	92895A838	HHCS, 3/8-16 x 3-1/2" L FULL THREAD, G5 ZP
8	3	95615A140	NUT, NYLOC, 3/8-16, ZP STEEL GRADE 5
9	2	98025A031	WASHER 3/8-ID
10	1	AL208	ARTICULATING LEG ASSY
11	3	ALA28090	INSTALLTION WASHER
12	1	ALA60133	J-HOOK
13	1	H209	BA01r1 LEG EXTENSION
14	2	H4205	CAP for 1.5sq x .120w Tube
15	1	H43000	BASE HOUSING WELD
16	2	H43001	VERTICAL JOINER FOOT
17	1	H43002	VERTICAL JOINER
18	1	H43006	BA01r1 - VERTICAL JOINER - 2
19	2	H6311111	ANCHOR, BLIND, Expandable, 5/16" LHBM08 #1EG
20	4	HHCS_ _	1/4-28 x 1/2"

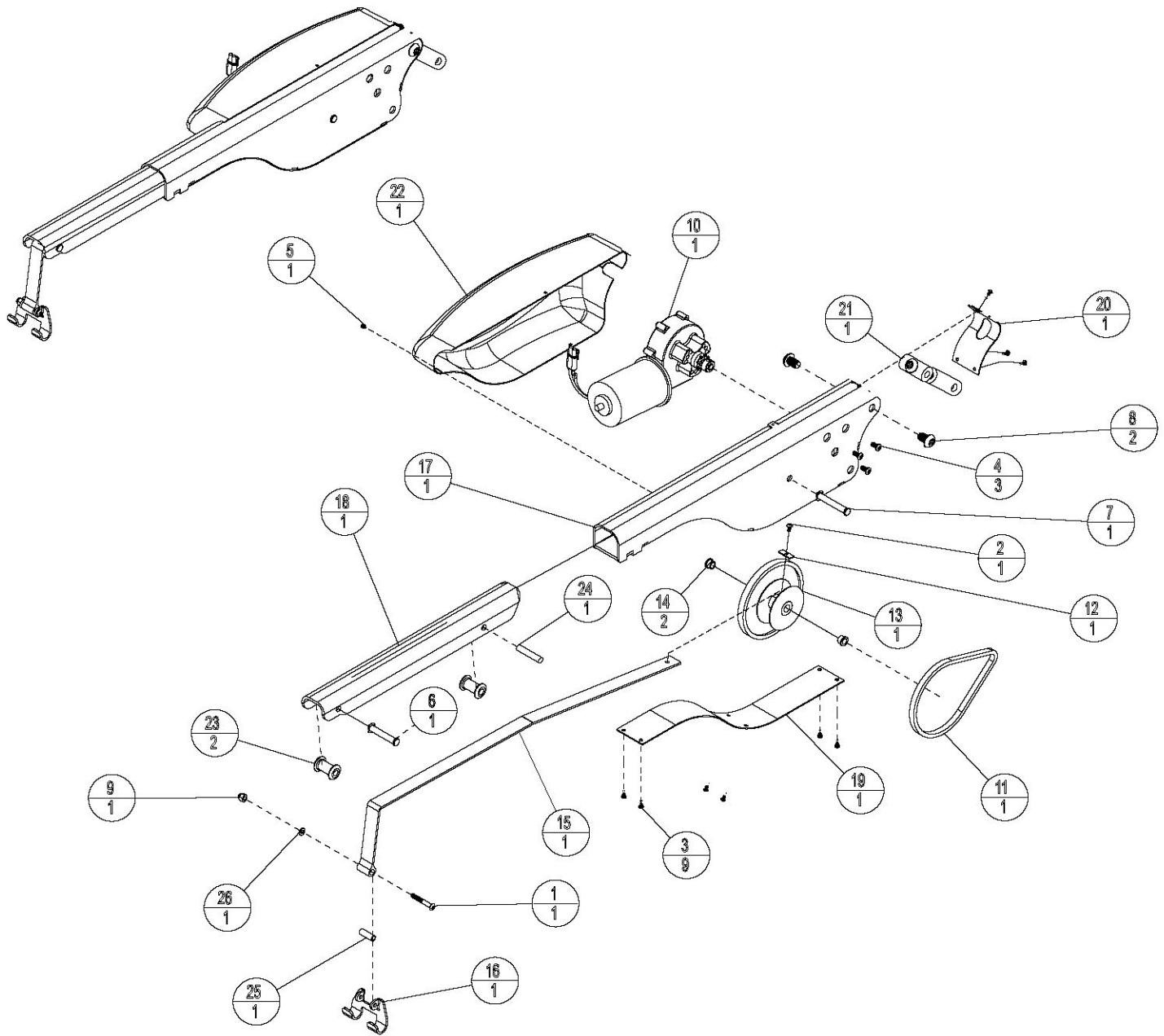
EXPLODED VIEW - POWER BASE



ASSEMBLY PARTS				ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
1	6	90272A148	MACHINE SCREW # 6-32 X 0.50	17	1	H425200	MOTOR HOUSING WELD
2	4	908S1A007	NYLOCK NUT # 6-32	18	1	H425210	MOTOR HOUSING COVER WELD
3	3	91102A750	1/4" 8PLIT LOCK WASHER	19	1	H425230	OUTER POST TUBE
4	4	91255A244	BCS 10-24 X 5/8	20	1	H425231	MOTOR HOUSING GEAR PIN - A
5	3	91266A563	BHCS 1/4-28 X 0.60	21	1	H425232	MOTOR HOUSING GEAR PIN - B
6	2	91772A086	M8 #2-56 X 1.00	22	1	H425240	DOUBLE SPROCKET 18-35 , 6-35
7	2	92311A194	SET SCREW 8-32 X 0.50	23	1	H425241	DOUBLE SPROCKET 18-35 , 6-40
8	4	92948A537	BHCS 1/4-20 X 0.60	24	1	H425248	MOTOR HOUSING - GEAR PLATE
9	4	94639A331	SPACER-ID=R, OD=313	25	2	H425250	LIMIT RING
10	1	98407A134	E-CLIP 3/8 SHAFT OD	26	1	H425253REV1	ALA26 PCB PLATE
11	1	98407A138	E-CLIP 1/2 SHAFT OD	27	1	H425255	LIMIT/MOTOR HOUSING SPACER
12	1	ALA25-PCB	PRINTED CIRCUIT BOARD	28	1	H425262	BUSHING 1/20,5800,3/4L
13	1	ALA20034	FLANGE BUSHING	29	1	H425263	BUSHING 3/8ID,6800,1/2L
14	1	ALA20035	CUP BUSHING	30	1	H425264	BUSHING 1/20,5/4OD,1/2L
15	1	ALA21410	FLANGE BUSHING BR2.36X1/2X3/8	31	2	OMRON_SS-5GL2	LIMIT SWITCH
16	1	ALA41011	OCL MOTOR	32	1	RHSS	1/4-20 x .25" NYLON Flat Head

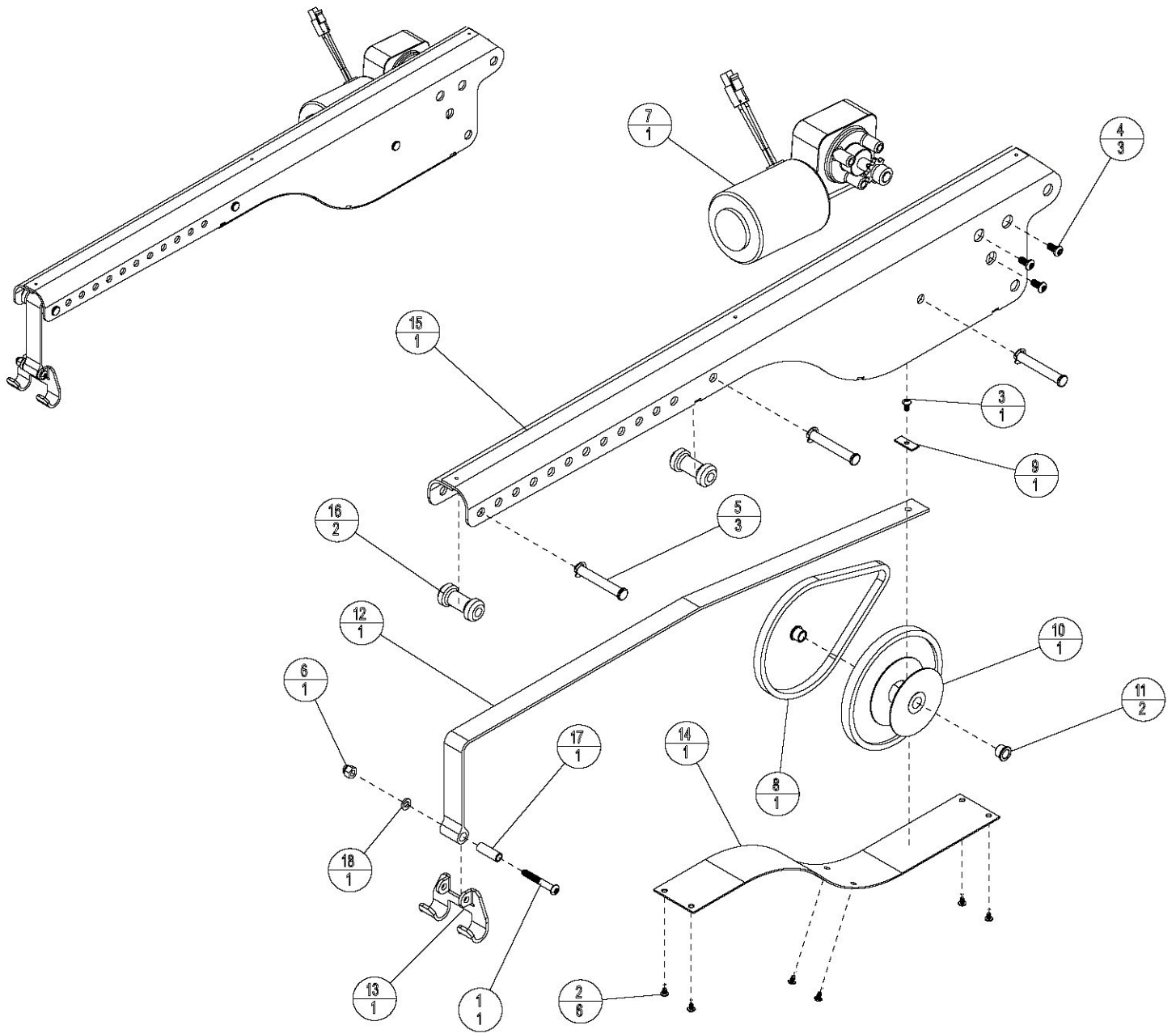


EXPLODED VIEW - 425 ARM

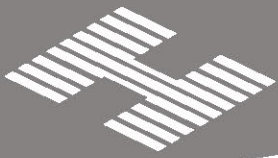


ASSEMBLY PARTS				ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
1	1	_BHCS	1/4-20 x 1.75 Button Head Cap	14	2	ALA21410	FLANGE BUSHING BRZ 3/8X1/2X3/8
2	1	_BHCS	10-32 x 3/8" Button Head	15	1	ALA87836	LIFTING STRAP
3	8	80087A180	6-32 X 0.25 THREAD CUTTING SCREW	16	1	H21572	DETACHABLE HOOK
4	3	8125A653	BHCS 1/4-20 X 0.50	17	1	H425400	HOIST WELD
5	1	92311A896	SET SCREW: 1/4-20 X 0.25	18	1	H425403	HOIST INNER ARM
6	1	92735A483	CLEVIS PIN & CLIP: 3/8 X 2.25	19	1	H425410	AL425 COVER-BOTTOM
7	1	92735A486	CLEVIS PIN & CLIP: 3/8 X 2.50	20	1	H425411	AL425 COVER-BACK
8	2	92949A710	BHCS 1/2-13 X 0.75	21	1	H425425	TURNBUCLE ASSEMBLY
9	1	AOCRM_MJT	1/4-20 Acorn nut	22	1	H425430-REV1	HOIST MOTOR COVER
10	1	ALA21015	LIFTING MOTOR	23	2	H425444	AL425 STRAP ROLLER
11	1	ALA21020	SPOOL CHAIN, 50 LINKS	24	1	H425445	PIN, ROLLER, STRAP, AL425
12	1	ALA21055	STRAP TAB	25	1	TU1-037-048-1_080	ASTM A513 TUBING, 3/8" dia x .049wall - 1.08L In BLACK PC
13	1	ALA214	SPOOL	26	1	WASHER	1/4" SPLIT LOCK WASHER

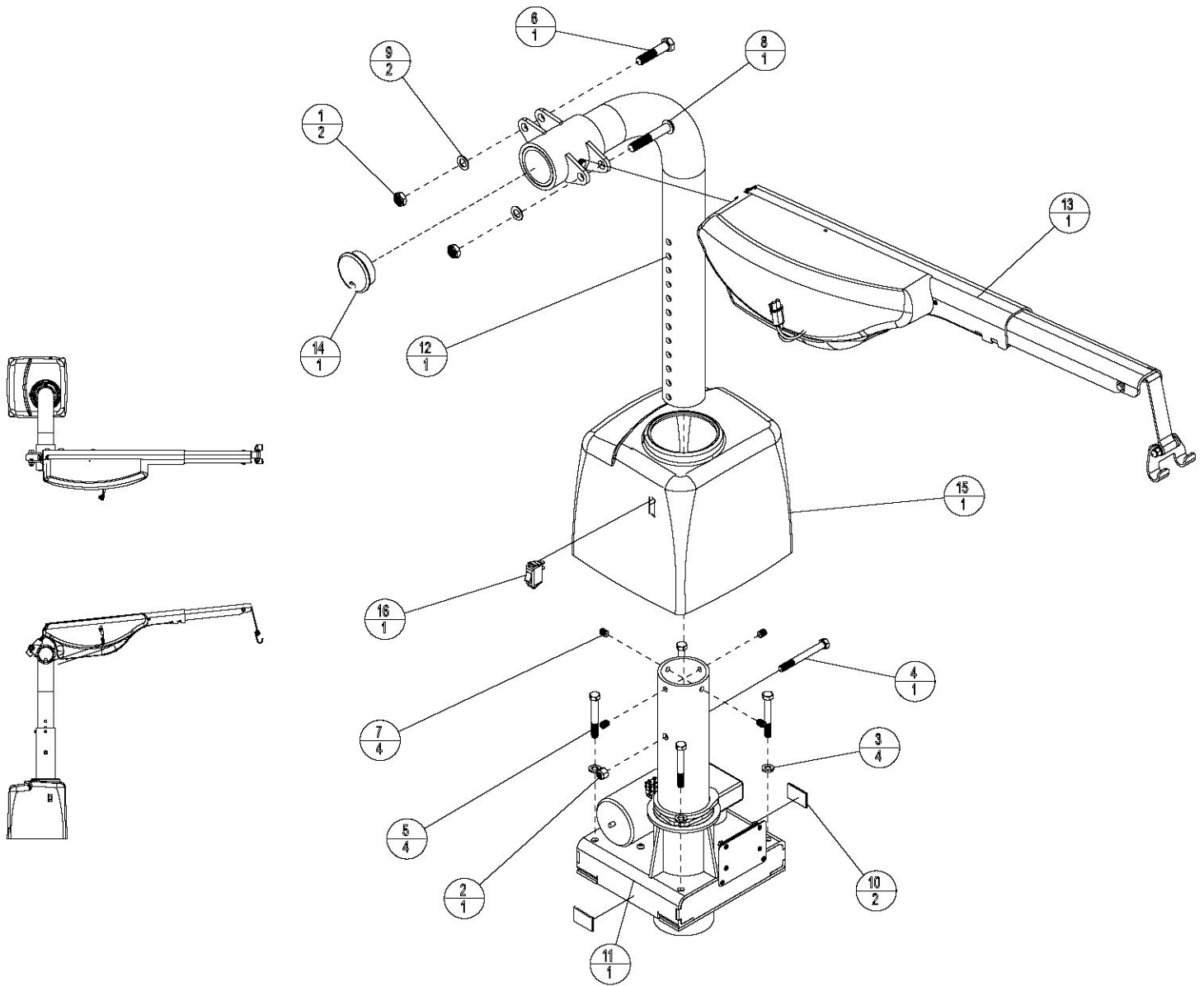
EXPLODED VIEW - AL225/215 ARM



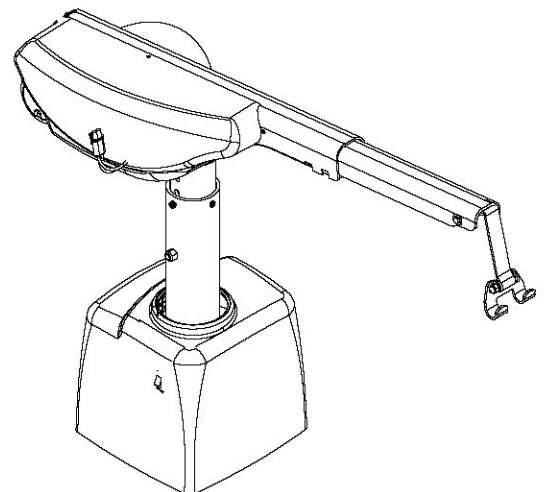
ASSEMBLY PARTS				ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
1	1	_BHCS	1/4-20 x 1.75 Button Head Cap	10	1	ALA214	SPOOL
2	6	80087A180	8-32 X 0.25 THREAD CUTTING SCREW	11	2	ALA21410	FLANGE BUSHING BRZ 3/8X1/2X3/8
3	1	81265A263	BHCS 10-32 x 3/8" BLACK OXIDE	12	1	ALA67997	LIFTING STRAP
4	3	81265A563	BHCS 1/4-28 X 0.50	13	1	H21072	DETACHABLE HOOK
5	3	82736A486	CLEVIS PIN & CLIP: 3/8 X 2.50	14	1	H215700	AL215/225/ & AG425 COVER-BOTTOM
6	1	ACORN_NUT	1/4-20 Acorn nut	15	1	H225400	AL215/225/AG425 ARM WELDMENT
7	1	ALA08111	ROTATION MOTOR	16	2	H225402	AL215 & AL225 ROLLER
8	1	ALA21020	SPOOL CHAIN, 50 LINKS	17	1	TU1-037-048-1_030	TUBING, 3/8" dia x .049wall - 1.06"L. fm BLACK PC
9	1	ALA21065	STRAP TAB	18	1	WASHER	1/4" SPLIT LOCK WASHER



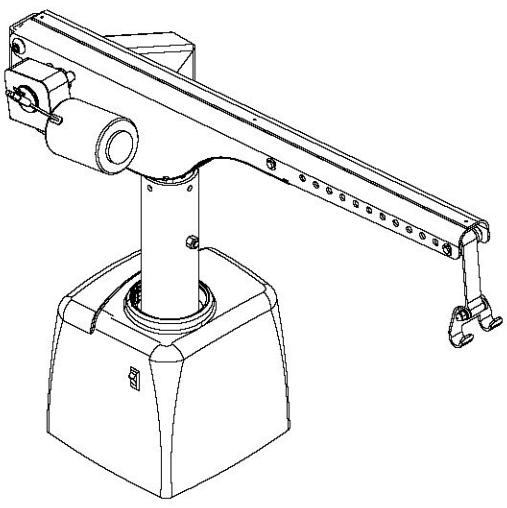
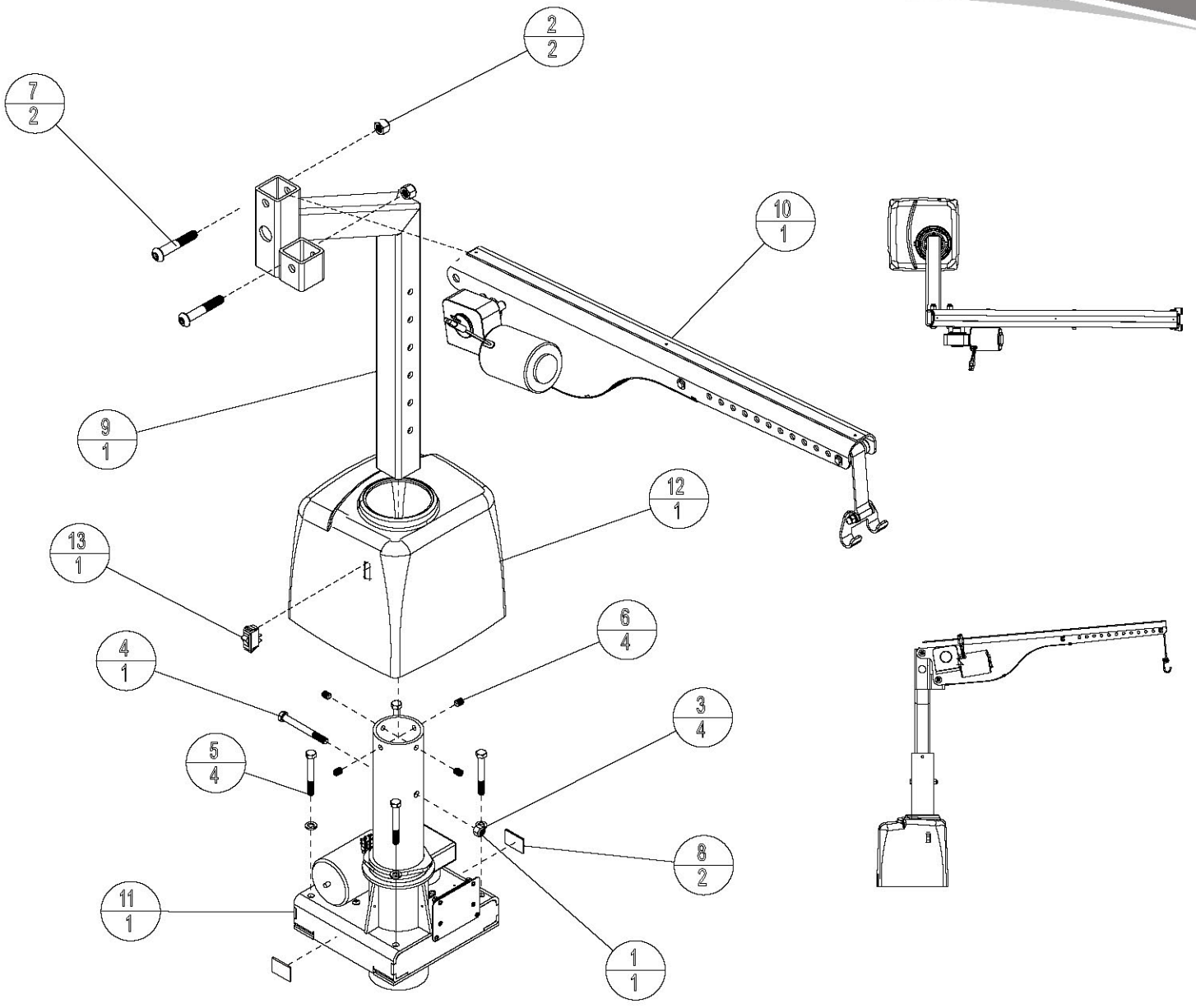
EXPLODED VIEW - AL425



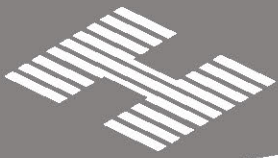
ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION
1	2	90566A033	NYLOCK NUT 1/2-13
2	1	90640A131	NYLOCK NUT 3/8-16
3	4	91102A790	3/8 SPRING LOCK WASHER
4	1	91238A938	HHCS 3/8-16 X 3.50
5	4	91247A936	HHCS 3/8-16 X 2.75
6	1	91247A721	HHCS 1/2-13 X 2.25
7	4	91375A819	SET SCREW 3/8-16 X 0.50
8	1	92949A724	BHSC 1/2-13 X 3
9	2	98017A210	WASHER 0.50 ID
10	2	ALA28060	VELCRO, 1" PC from 25 YD ROLL
11	1	H425002	MOTOR HOUSING ASSEMBLY
12	1	H425003	COLLAR & POST ASSEMBLY
13	1	H425004	HOIST ASSEMBLY
14	1	H425009	ROUND TUBE PLUG
15	1	H425435	BASE COVER, AL425
16	1	POWER_SWITCH	POWER SWITCH



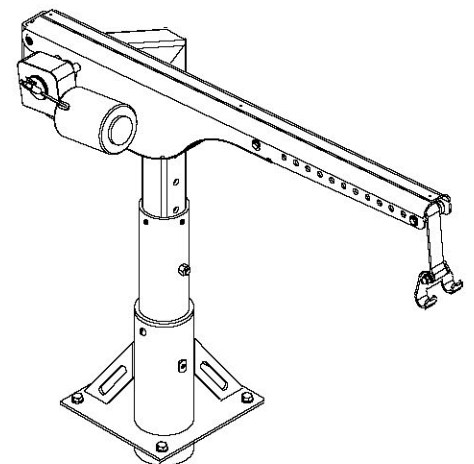
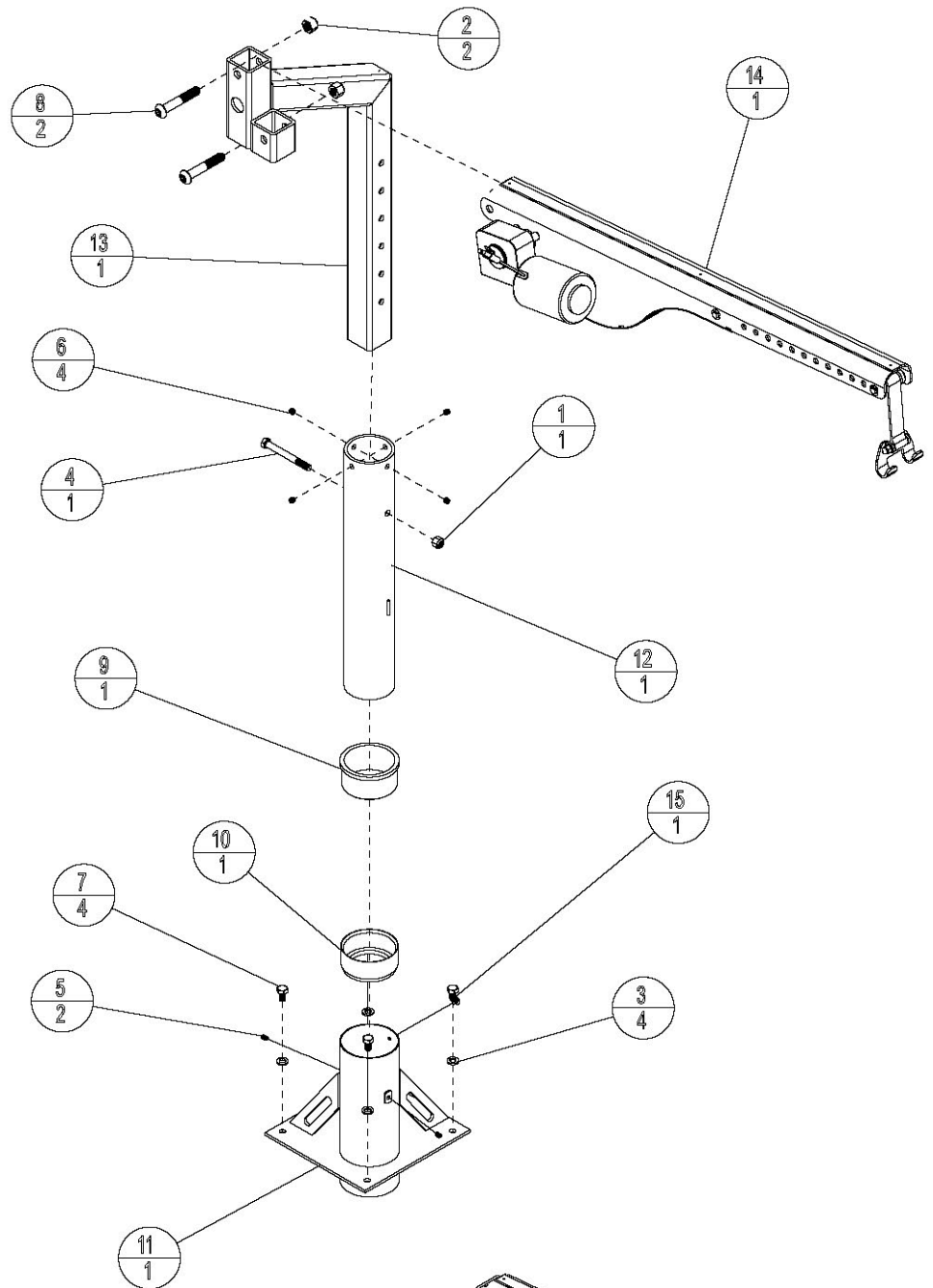
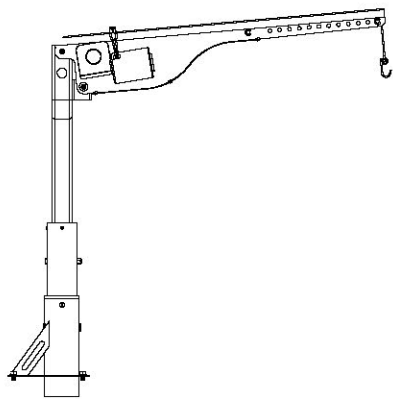
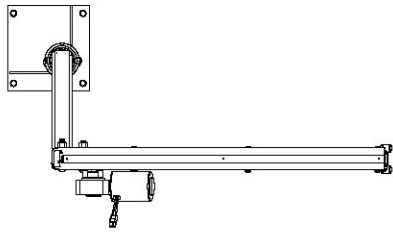
EXPLODED VIEW - AL225



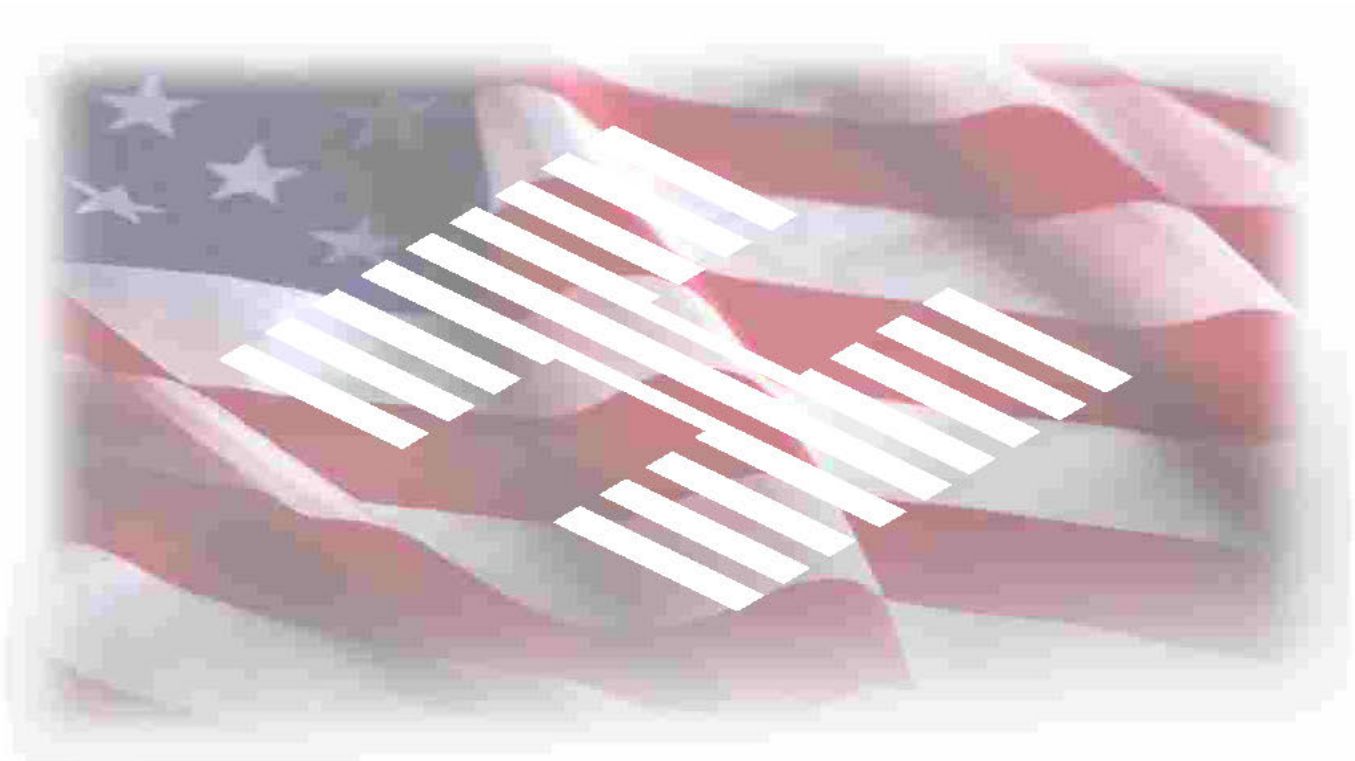
ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION
1	1	90840A131	NYLOCK NUT 3/8-16
2	2	90840A133	NYLOCK NUT 1/2-13
3	4	91102A760	3/8 SPRING LOCK WASHER
4	1	91236A638	HHCS 3/8-16 X 3.50
5	4	91247A635	HHCS 3/8-16 X 2.75
6	4	91375A819	SET SCREW 3/8-16 X 0.50
7	2	92948A724	BH&C 1/2-13 X 3
8	2	ALA28060	VELCRO, 1" PC from 25 YD ROLL
9	1	H215810C	ANGLED SQUARE POST
10	1	H225004	AL225 ARM ASSEMBLY
11	1	H425002	MOTOR HOUSING ASSEMBLY
12	1	H425435	BASE COVER, ALA25
13	1	POWER_SWITCH	POWER SWITCH



EXPLODED VIEW - AL215



ASSEMBLY PARTS			
ITEM	QTY	PART NO.	DESCRIPTION
1	1	90640A131	NYLOCK NUT 3/8-16
2	2	90640A133	NYLOCK NUT 1/2-13
3	4	91102A760	3/8 SPRING LOCK WASHER
4	1	91238A838	HHCS 3/8-16 X 3.50
5	2	91375A585	SET SCREW 1/4-20 X .375
6	4	91375A575	SET SCREW 5/16-18 X 0.3125
7	4	32985A821	HHCS 3/8-16 X 0.625
8	2	32948A724	BHSC 1/2-13 X 3
9	1	ALA20034	FLANGE BUSHING
10	1	ALA20036	CUP BUSHING
11	1	H215210C	BASE HOUSING COVER WELDMENT
12	1	H215215C	AL215 OUTER TUBE WELDMENT
13	1	H215810C	ANGLED SQUARE POST
14	1	H225004	AL225 ARM ASSEMBLY
15	1	RHSS	1/4-20 x .25" NYLON Flat Head



THANK YOU FOR MAKING HARMAR AMERICA'S LEADER IN LIFTS AND RAMPS