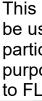


- A. "STANDARD" FLOTRON FINISHES (SHOWN) CLASS 10K (ISO 7 CLEANROOM COMPATIBLE FINISHES) FLOTRON BLUE POWDER COATED END FRAMES, GEARBOX PAINTED FLOTRON BLUE, NICKEL PLATED COMPONENTS (NO ZINC), STAINLESS STEEL OR BLACK OXIDE FASTENERS AND MISC. HARDWARE. STANDARD LUBRICANTS.
- B. "C" FINISH CLASS 1K (ISO 6 CLEANROOM COMPATIBLE FINISHES) SKY WHITE POWDER COATED END FRAMES, GEARBOX PAINTED GLOSS WHITE EPOXY, NICKEL PLATED COMPONENTS (NO ZINC), STAINLESS STEEL FASTENERS AND MISC. HARDWARE. OPEN-ENDED TUBES NICKEL PLATED (EXCEPT FORKLIFT TUBES). KRYTOX GPL 207 LUBRICANT ON CASTER SWIVEL BEARINGS, TRUNNION SHAFTS, AND JACKS (IF APPLICABLE).
- 2. LOAD RATING: 2,500 LBS @ 3.00" MAX ECCENTRICITY CONSIDERING A SIMULTANEOUS 1/2G SIDE LOAD (WORST CASE DIRECTION) AND A 1G VERTICAL LOAD. SFy=3 & SFult=5. MAX TORQUE ON GEARBOX 7,500 IN-LBS (2,000 IN-LBS MAX EASY CRANK FOR 60:1 **STANDARD** GEARBOX AND 7,200 IN-LB FOR 300:1 **DR3** GEARBOX)
- 1. WEIGHT IN TITLE BLOCK INCLUDES 2,500 LB PAYLOAD.
- NOTES:

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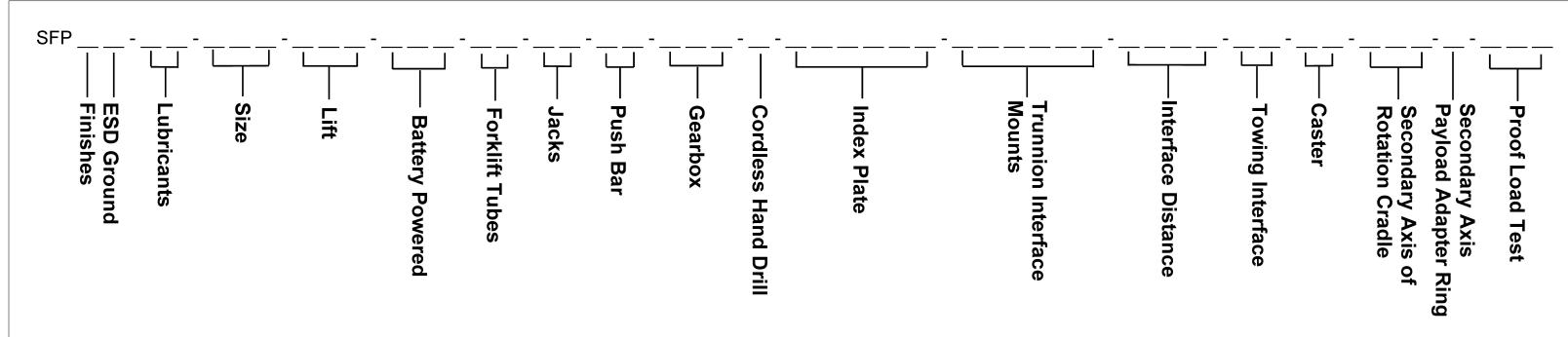
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		SFP-747 SFP-759	BLANK EN	1L BL	ANK BAT	BLANK	F1	BLANK	J5	BLANK	P1	BLANK	DR3	DR6	BLANK	D	BLANK IND15	INDS15	BLANK T1	T2	Т3	BLANK	SA1-SA8
SIZE	SFP-747 SFP-759																					<u> </u>	Х
	BLANK - STANDARD				Х																	<u> </u>	
LIFT	EML						X				X								X	X		<u> </u>	
	BLANK - NO BATTERY																					<u> </u>	
BATTERY POWERED	BAT		X																				
	BLANK - NO TUBES																						
FORKLIFT TUBES	F1			<																	Х		
	BLANK - NO JACKS																						
JACKS	<u>_</u>																				X (4)		
	BLANK - NO PUSH BAR																						
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ROTATION CRADLE	SA1-SA8	X										-	-		-								
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	2. OPTIONS SHOWN AS . OPTIONS NOT SHOWI									D. COr	NIACII			rukihl	ERDETA) EXPLANATIO		JINCEKINS/KISK				
								CNIN															
4. JACKS WITH T3 OPTION ARE COMPATIBLE WITH SFP-759 ONLY																							



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SHEET 2 OF 10



Finishes

(blank) - Standard finishes (No Zinc) C - - - - Clean room finishes

ESD Ground

- (blank) No ESD ground
- E - - Ground lug and drag chain for use in EPA's

Lubricants

- (blank) Standard lubricants
- L1 - Trunnions, caster swivel bearings, and jacks (if applicable) lubricated with Krytox GPL 207
- L2 - Trunnions, caster swivel bearings, and jacks (if applicable) lubricated with Braycote 601EF
- NOTE: "C" finish includes L1 lubricants except in jack screw threads.

Size

- 747 - 47" wide frame; 30.5"-36.5" max payload swing radius; 2,500 lb. capacity
- 759 - 59" wide frame; 43.5" 49.5" max payload swing radius; 2,500 lb. capacity

Lift

- (blank) Risers pinned at 2" increments (overhead lift req)
- EML - Electromechanical Lift. This option increases lift range and max swing radius. See proposal drawing for details.

Battery Powered

- (blank) No battery
- BAT - Battery powered lift for EML option

Forklift Tubes

- (blank) No forklift tubes
- F1 - Frame mounted forklift tubes (not available for "B" distances over 150". Inside of tubes not fully plated (Even for "C" finish)

Jacks

- (blank) No jacks provided
- J5 - Jacks with hex drive

Push Bar

- (blank) No push bar
- P1 - Non-gearbox side riser mounted push bar (Can mount to gearbox side riser but only in highest two interface height pin positions)

Gearbox

- (blank) 60:1 ratio standard gearbox
- DR3 - 300:1 ratio double reduction stairstep resistant Gearbox. Recommended for torques higher than 2,000in-lbs.
- DR6 - 600:1 ratio double reduction stairstep resistant Gearbox. Must select "D" drill drive option.

Cordless Drill Drive Input

(blank) – No hand drill

D - - - - Battery powered right angle drill permanently Mounted to gearbox input shaft (Must select DR6 Gearbox option)

Proof Load Test

(blank) - - No proof load test

Secondary Axis Payload Adapter Ring

- (blank) No adapter ring for secondary axis of rotation cradle.
 - Standard SA interface comes with 36X ¹/₄-28 threaded holes on a Ø24" bolt circle (ESPA Grande)
- R - - Adapter ring to convert SA interface holes to 36X Ø.281 thru holes on a Ø24" bolt circle (ESPA Grande)

Secondary Axis of Rotation Cradle

- (blank) - No secondary axis of rotation SA1 - - - Secondary axis of rotation (Bolt Position 1) SA2 - - - Secondary axis of rotation (Bolt Position 2) SA3 - - - Secondary axis of rotation (Bolt Position 3) SA4 - - - - Secondary axis of rotation (Bolt Position 4) SA5 - - - - Secondary axis of rotation (Bolt Position 5) SA6 - - - - Secondary axis of rotation (Bolt Position 6) SA7 - - - Secondary axis of rotation (Bolt Position 7) SA8 - - - - Secondary axis of rotation (Bolt Position 8) NOTE: NOT COMPATIBLE WITH SIZE 747 See proposal drawing to determine correct bolt position. Bolt positions can be
 - load capacity to 1,800 lbs cantilevered 33" max from interface.

Caster

(blank) - - Standard Ø6" nylon casters with swivel locks and brakes C1 - - - - Ø8" nylon casters with swivel locks and brakes

Towing Interface

(blank) - - No towing interface T3 - - - - Removable tow bar (attaches to end frames) NOTE:

Interface Distance

3"XXX" Interface di	stance wh	ere "
interface m	ounts. (1"	incre
<u>SIZE</u>	MIN	<u>MA</u>
SFP-747	30"	280
SFP-759	40"	280

Trunnion Interface Mounts

P12 - - - - 8" x 12" mounting plate

- bolted to P12.
- pattern) bolted to P12. Special angle interface lengths available upon request. NOTE:

Index Plate

(blank) - - No index plate IND15 - - 15° index plate INDS15 - 15° index plate with index stops Special index plate hole spacing available upon request. NOTE:

PLT - - - - Standard proof load Test (includes deliverable report)

changed in the field, but bolt position selected will be the bolt position fixture is shipped with. Must select B120 interface distance when specifying standard length cradle. Special length cradles available upon request in increments of 20". To get most capability out of SA option and for best operator experience, "DR6" gearbox with drill drive input ("D" Option) is highly recommended. Option reduces

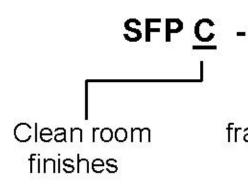
T1 - - - - Removable lunette ring towing interface (attaches to main beam) T2 - - - - Removable ball coupler towing interface (attaches to main beam) T3 option is not compatible with jacks (J5 option) for 747 size.

> "XXX" = length in inches between trunnion" ements within the following range) <u>\Χ</u> 0" ∩"

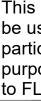
P12/A30 - P12 (8" x 12") mounting plate with A30 angle (No mounting holes)

P12/B30 - P12 (8" x 12") mounting plate with B30 angle (Standard mtg. hole

Example:







J5 P12/A30 747 **B** 120 --Inside Length Jacks Angle Interface 47 frame width between Trunnion 30" length interfaces = 120"

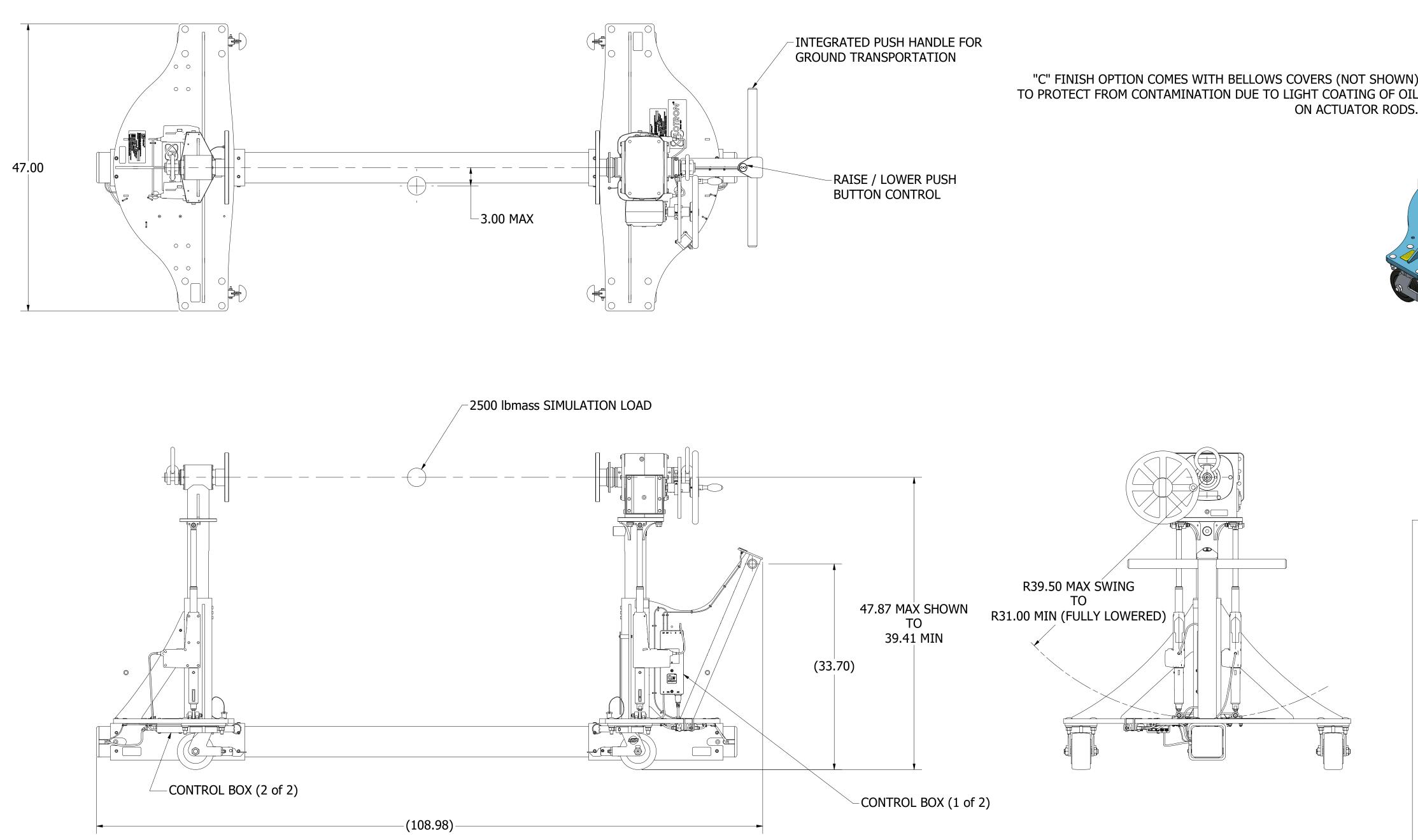
SFP-700 SERIES CREATING A MODEL NUMBER

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SHEET 3 OF 10

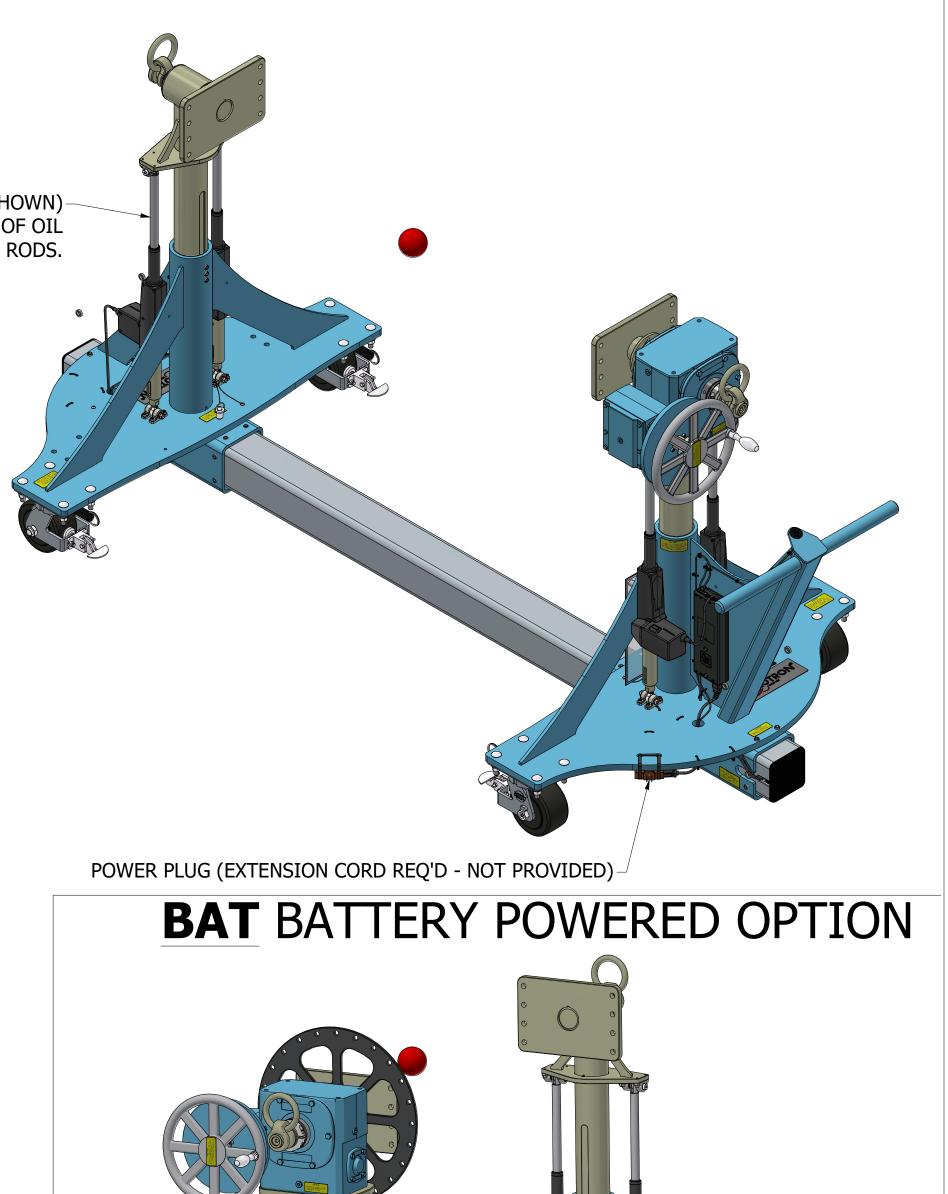


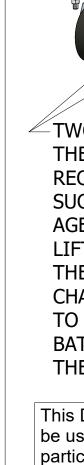
- 10. MIN/MAX TEMPERATURE FOR ELECTRICAL COMPONENTS: +41°F TO +104°F
- 9. UNIT WILL RETAIN POSITION WHEN TURNED OFF SO NO HOMING FUNCTION IS NECESSARY DURING NORMAL USE.
- 8. NOISE LEVEL: 48dB(A); MEASURING METHOD DS/EN ISO 3743-1, WHEN ACTUATORS ARE NOT LOADED.
- 7. DUTY CYCLE: MAX 10% OR 2 MINUTES CONTINUOUS USE FOLLOWED BY 18 MINUTES NOT IN USE.
- 6. THE RAISE AND LOWER SPEED IS FIXED AT 11.5 INCHES/MINUTE AND IS NOT ADJUSTABLE. BUTTONS CAN BE JOGGED TO RAISE AND LOWER SLOWER IF DESIRED. 5. INPUT POWER: 100-240VAC, 50-60HZ, 600W. AN EXTENSION CORD (5 AMP MINIMUM RATING) IS NEEDED TO POWER UNIT (NOT PROVIDED). 3. FINISHES:
- A. "STANDARD" FLOTRON FINISHES (SHOWN) CLASS 10K (ISO 7 CLEANROOM COMPATIBLE FINISHES) FLOTRON BLUE POWDER COATED END FRAMES, GEARBOX PAINTED FLOTRON BLUE, NICKEL PLATED COMPONENTS (NO ZINC) STAINLESS STEEL OR BLACK OXIDE FASTENERS AND MISC. HARDWARE. STANDARD LUBRICANTS.
- B. "C" FINISH CLASS 1K (ISO 6 CLEANROOM COMPATIBLE FINISHES) SKY WHITE POWDER COATED END FRAMES, GEARBOX PAINTED GLOSS WHITE EPOXY, NICKEL PLATED COMPONENTS (NO ZINC), STAINLESS STEEL FASTENERS AND MISC. HARDWARE. OPEN-ENDED TUBES NICKEL PLATED. KRYTOX GPL 207 LUBRICANT ON CASTER SWIVEL BEARINGS, TRUNNION SHAFTS, AND JACKS (IF APPLICABLE).
- 3. CONFIGURATION SHOWN ON THIS SHEET: SPF-747-EML-DR3-P12-B060 FOR ADDITIONAL FIXTURE OPTINONS SEE CONFIGURATION SECTION ON SHEET 9.
- 2. LOAD RATING: 2,500 LBS @ 3.00" MAX ECCENTRICITY CONSIDERING A SIMULTANEOUS 1/2G SIDE LOAD (WORST CASE DIRECTION) AND A 1G VERTICAL LOAD. SFy=3 & SFult=5. MAX TORQUE ON GEARBOX 7,500 IN-LBS (2,000 IN-LBS MAX EASY CRANK FOR 60:1 STANDARD GEARBOX AND 7,200 IN-LB FOR 300:1 **DR3** GEARBOX)
- 1. WEIGHT IN TITLE BLOCK INCLUDES 2,500 LB PAYLOAD.

NOTES:

EML (ELECTROMECHANICAL LIFT) OPTION

"C" FINISH OPTION COMES WITH BELLOWS COVERS (NOT SHOWN)

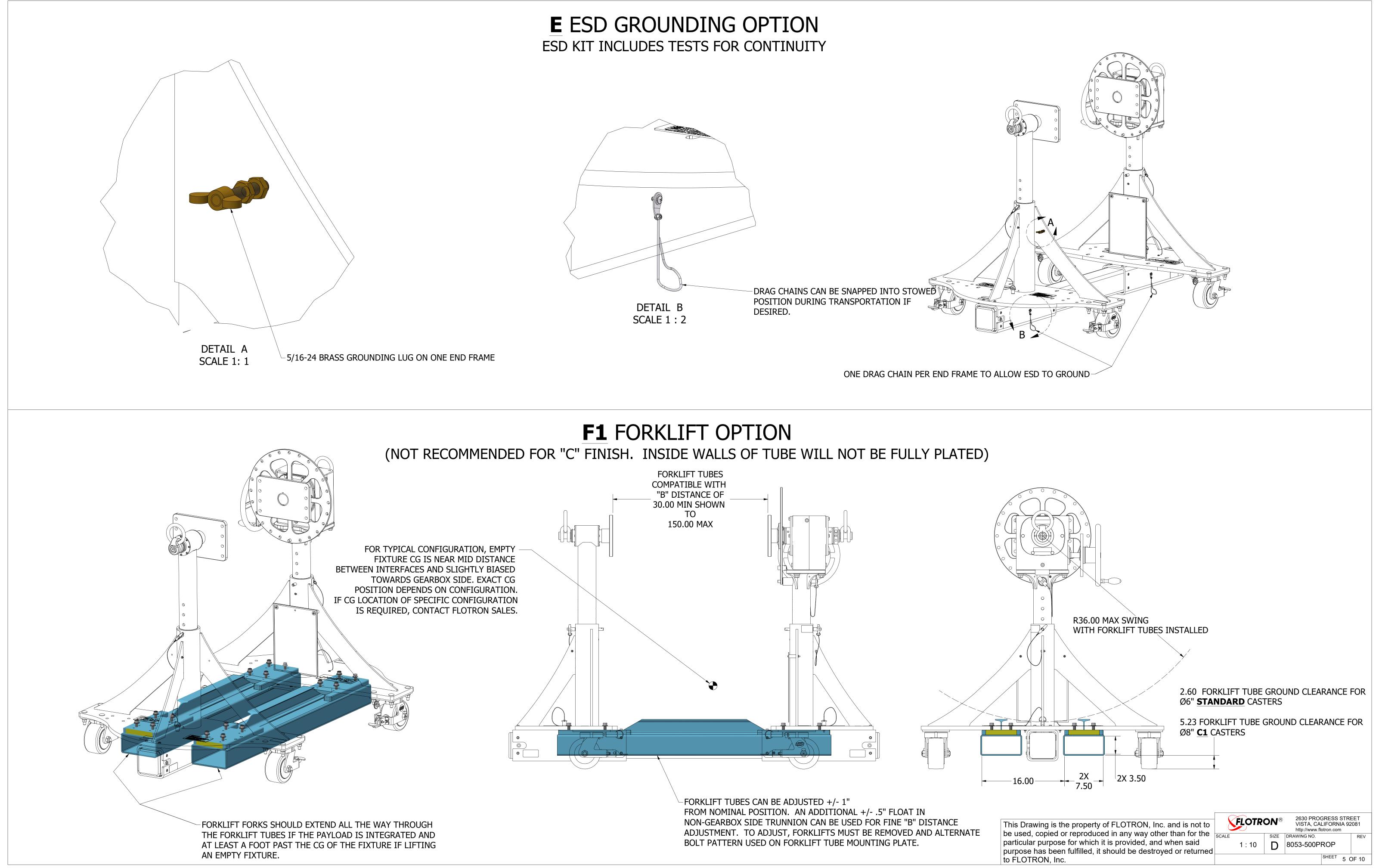


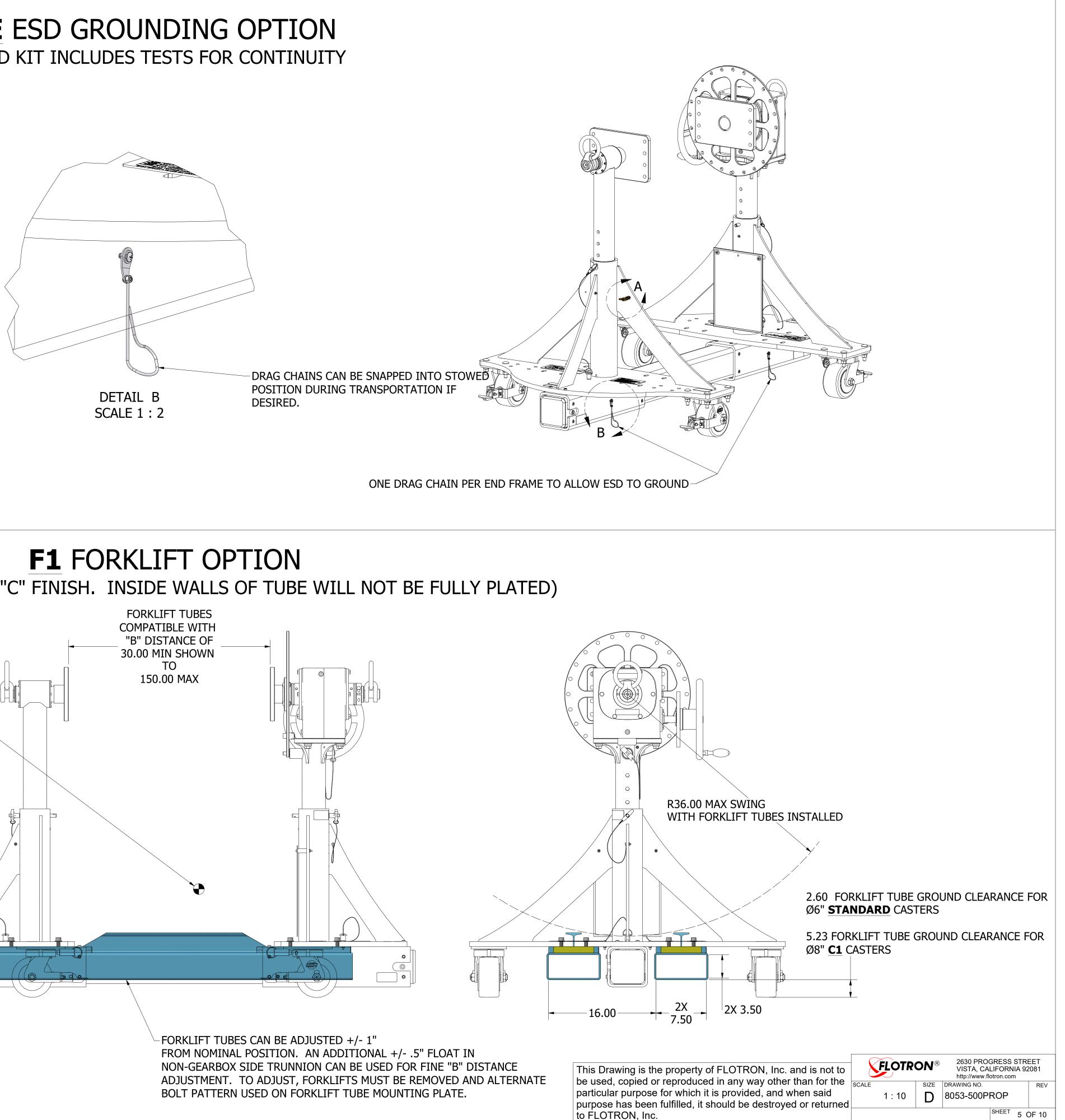


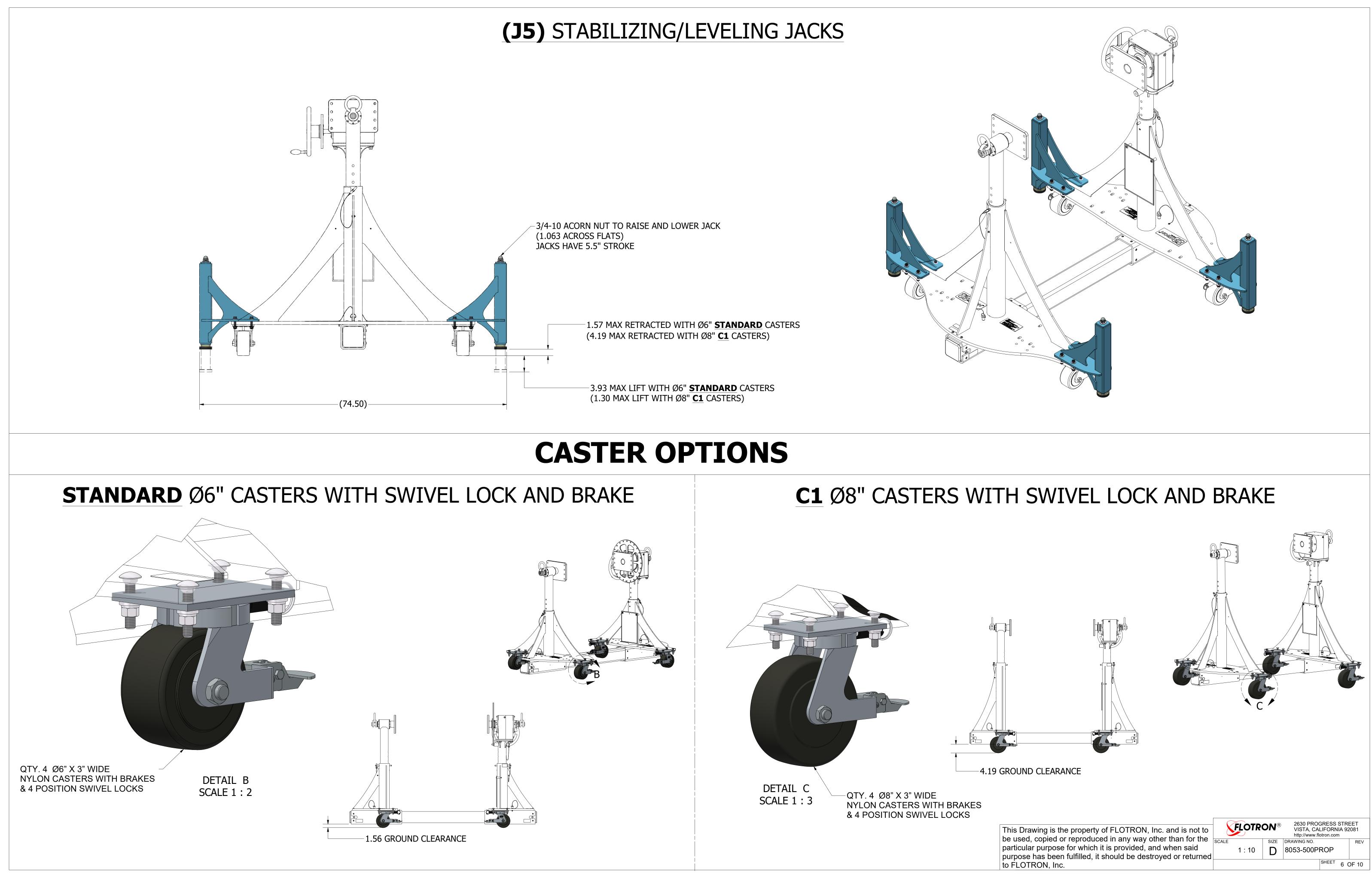
*—*TWO BATTERIES ARE PROVIDED, MOUNTED OPPOSITE TO THE CONTROL BOXES. THESE BATTERIES FACILITATE MULTIPLE LIFT AND LOWER CYCLES BEFORE REQUIRING A CHARGE. THE PRECISE NUMBER OF CYCLES DEPENDS ON VARIOUS FACTORS SUCH AS THE PAYLOAD WEIGHT, LOAD ECCENTRICITY, AMBIENT TEMPERATURE, BATTERY AGE, AND LIFT DISTANCE. NONETHELESS, IT IS ESTIMATED THAT THE TOTAL NUMBER OF LIFT/LOWER CYCLES WITH A FULL PAYLOAD WEIGHT IS APPROXIMATELY EIGHT. THE BATTERIES CAN BE CHARGED THROUGH THE CONTROL BOX OR CAN BE DETACHED AND CHARGED THROUGH A SEPARATE LINAK SMPS006 CHARGER (SOLD SEPARATELY) TO ENSURE THAT THERE IS ALWAYS A CHARGED BATTERY AVAILABLE, AN ADDITIONAL BATTERY AND SMPS006 CHARGER CAN BE ORDERED. FOR FURTHER DETAILS REGARDING THE BATTERY, PLEASE REFER TO THE LINAK BA001 USER MANUAL AVAILABLE ONLINE.

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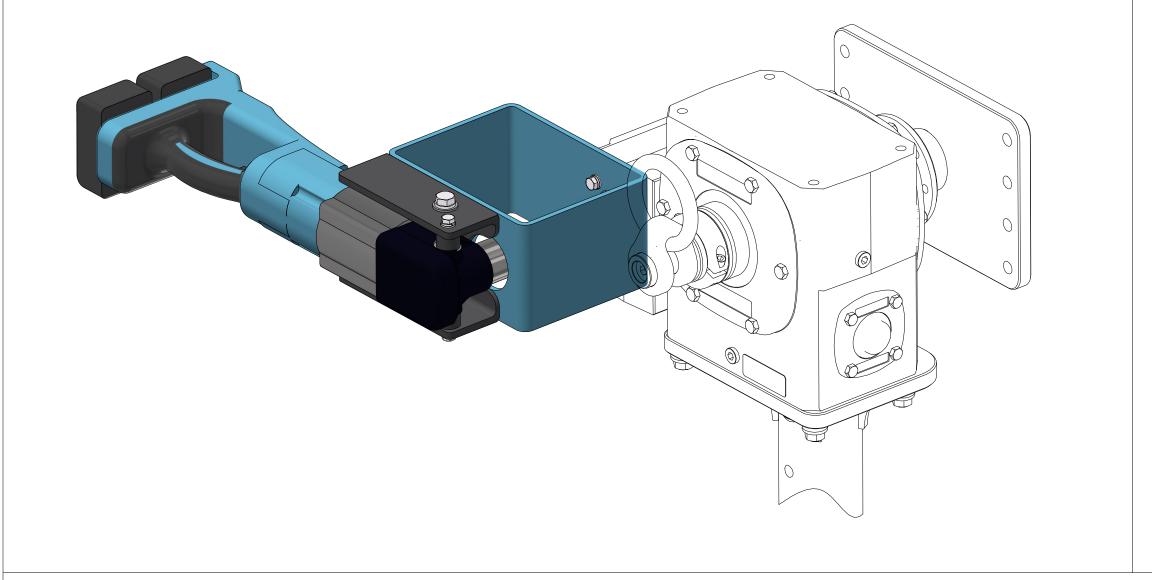


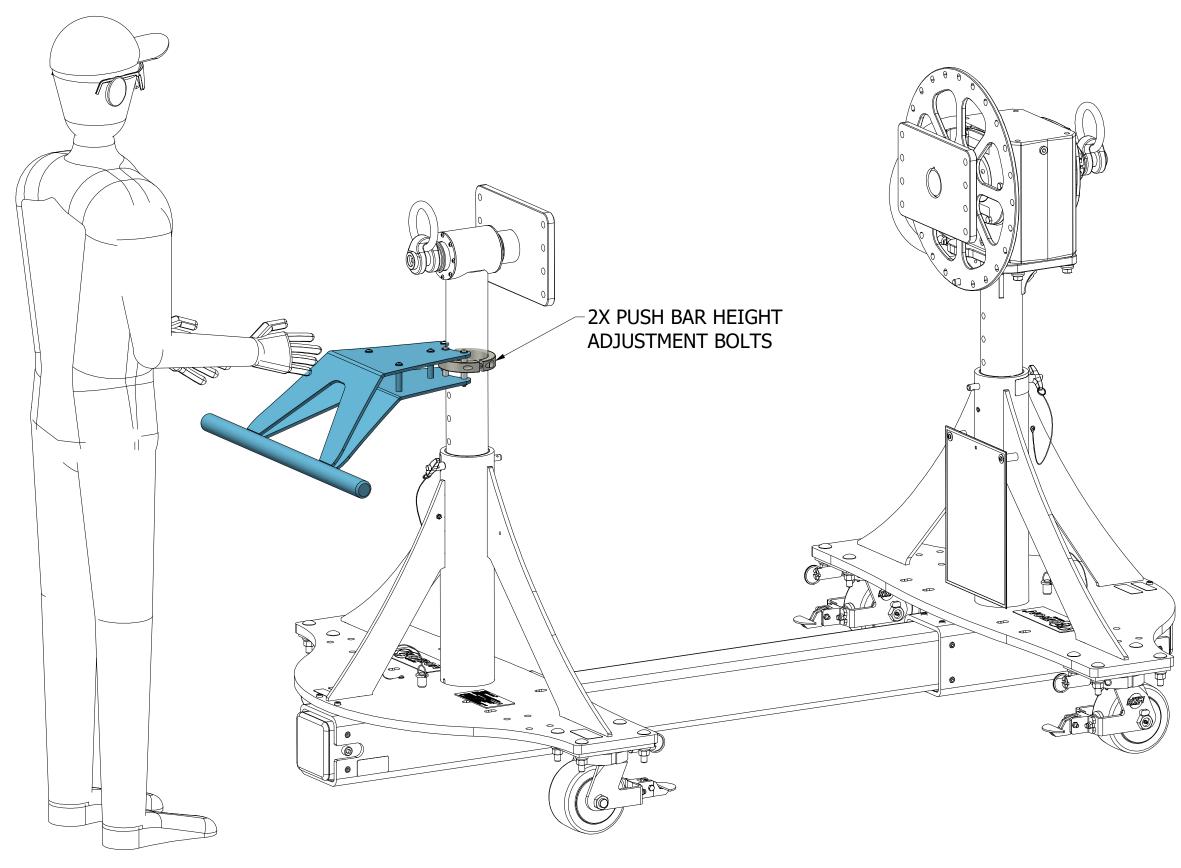


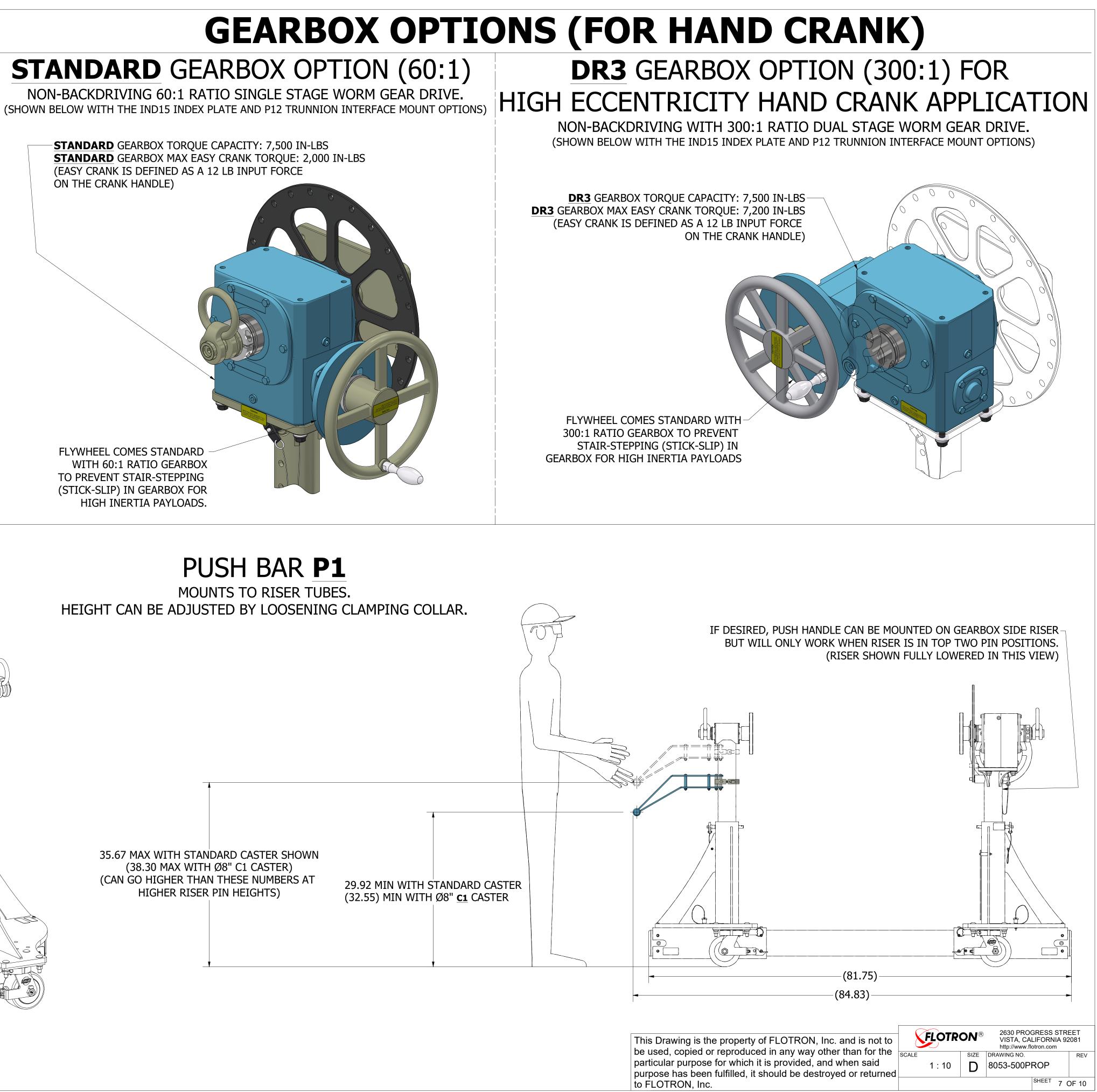


D CORDLESS HAND DRILL INPUT

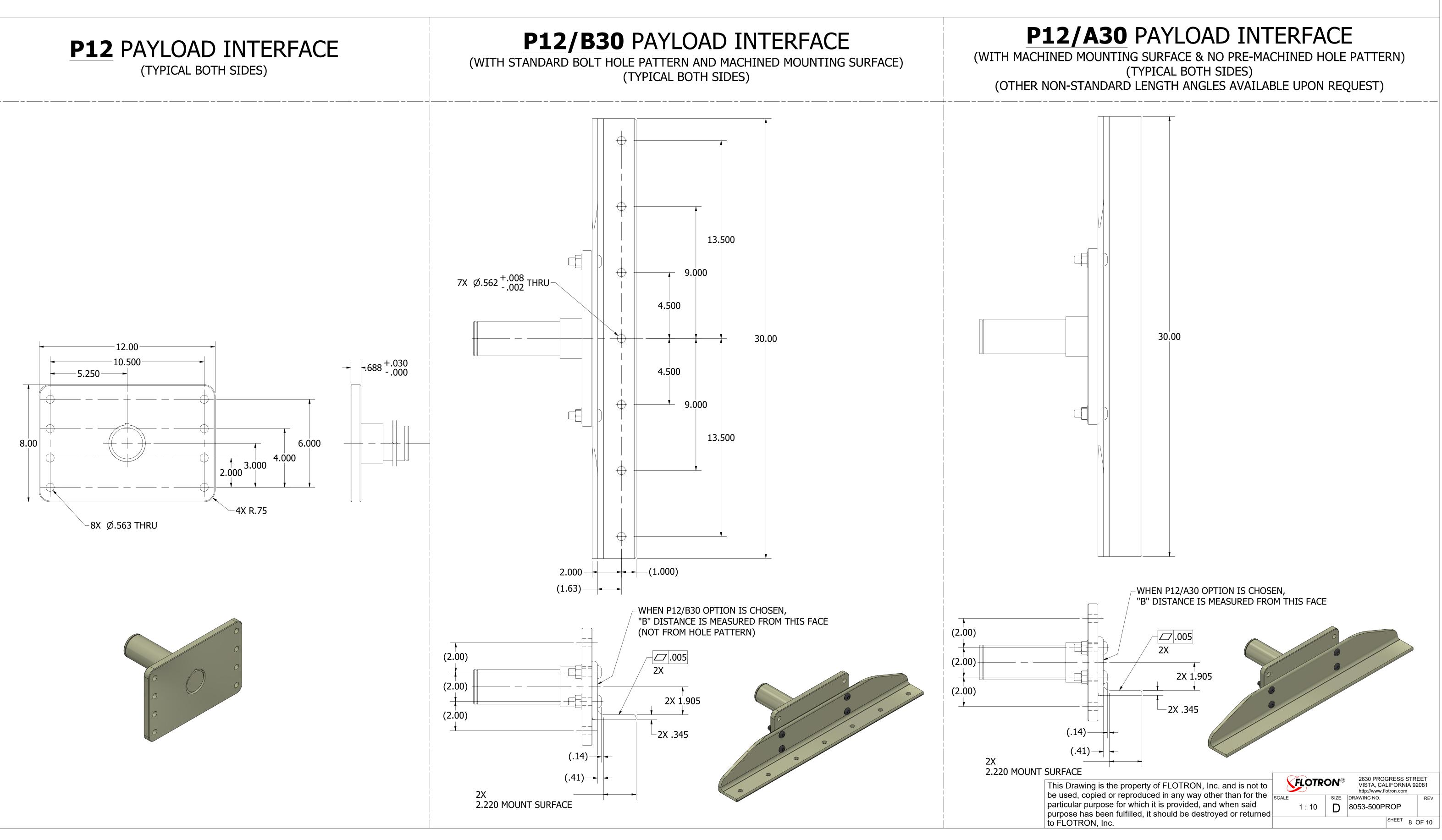
AVAILABLE WITH DR6 OPTION ONLY. WHEN **D** OPTION IS CHOSEN, DR6 GEARBOX WILL HAVE A 600:1 RATIO. DRILL MAX RPM IS 300 RESULTING IN A MAX OUTPUT PAYLOAD ROTATION OF .5 RPM. WITH **D** OPTION, FULL GEARBOX TORQUE CAPACITY CAN BE USED. COMES STANDARD WITH CLUTCH BETWEEN THE GEARBOX AND HAND CRANK TO PREVENT OVER-TORQUE OF GEARBOX IN CASE INDEX PIN WAS NOT REMOVED BEFORE ROTATION OR PAYLOAD ECCENTRICITY IS TOO HIGH. (SHOWN ABOVE WITH THE IND15 INDEX PLATE AND P12 TRUNNION INTERFACE MOUNT OPTIONS)

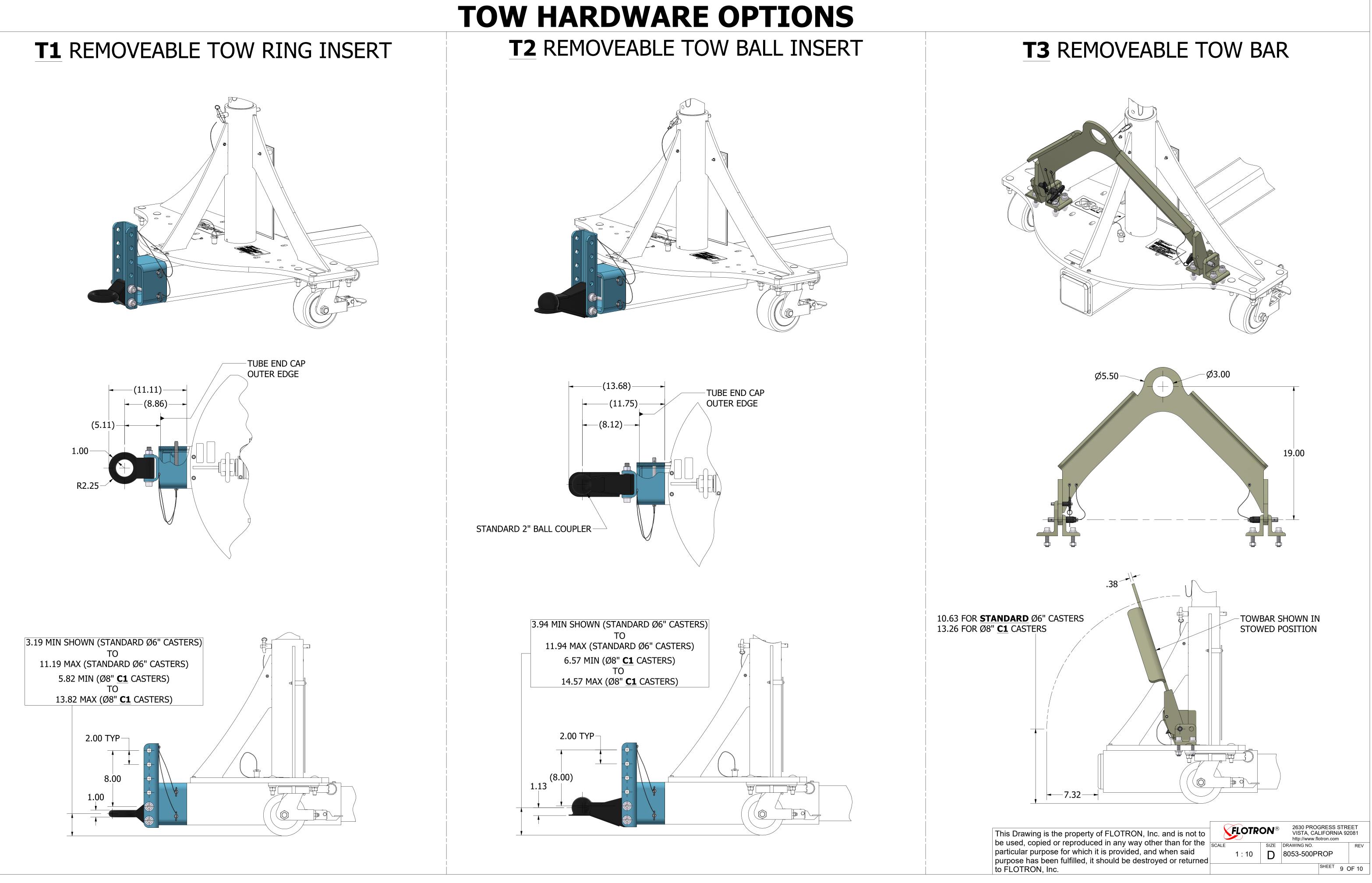






TRUNNION INTERFACE MOUNT OPTIONS





PROOF LOAD TEST (PLT) PROCEDURE

PRIMARY AXIS PROOF LOAD REQUIREMENTS:

PROOF LOAD WEIGHT = 2 X 2,500 LBS = 5,000 LBS (MIN) 100% RATED TORQUE = 7,500 IN-LBS (MIN)

STATIC PROOF LOAD TEST PROCEDURE (DO **NOT** ROTATE LOAD):

- VERIFY THAT ALL STRUCTURAL COMPONENTS HAVE BEEN PROPERLY ASSEMBLED AND ALL BOLTS HAVE BEEN TORQUED.
- 2. WEIGH PROOF LOAD TO MAKE SURE IT MEETS REQUIREMENT AND TAKE A PICTURE OF PROOF LOAD ON SCALE WITH LOAD VALUE ON SCALE VISIBLE FOR PROOF LOAD REPORT.
- 3. WHILE SUPPORTING PROOF LOAD WEIGHT TORQUE PROOF LOAD MOUNTING BOLTS THEN SLOWLY OFFLOAD PROOF LOAD WEIGHT ONTO FIXTURE. 4. STOP AS REQUIRED TO REVIEW AND INSPECT ANY UNEXPECTED NOISES OR MOVEMENTS.
- 5. START TIMER, TAKE A PICTURE OF CLOCK ON FIXTURE, AND HOLD FOR (5) FIVE MINUTES.
- AFTER 5 MINUTES, TAKE A SECOND PICTURE OF CLOCK ON FIXTURE AND VISUALLY INSPECT FOR CRACKS. DEFORMATION. ETC.

IF JACK (J5) OPTION IS CHOSEN:

- LOWER ALL JACKS TO CONTACT THE FLOOR WITHOUT COMPLETELY OFFLOADING WEIGHT FROM CASTERS.
- 2. AT ONE JACK LOCATION, EXTEND JACK TO RAISE CASTER 1/2" FROM FLOOR.
- REVIEW THE REMAINING JACK POSITIONS AND DOCUMENT CLEARANCE TO FLOOR IF ANY.
- 4. EXTEND THE PARTNER JACK MOUNTED ON THE SAME END FRAME TO RAISE THE CASTER 1/2" FROM FLOOR LEVEL
- 5. FOLLOW THE PROCEDURE ON THE OPPOSITE END FRAME.
- 6. START TIMER, TAKE A PICTURE OF CLOCK ON FIXTURE, AND HOLD FOR (5) FIVE MINUTES. AFTER 5 MINUTES, TAKE A SECOND PICTURE OF CLOCK ON FIXTURE AND VISUALLY INSPECT FOR CRACKS, DEFORMATION, ETC.

SECONDARY AXIS PROOF LOAD REQUIREMENTS (IF **SA** OPTION IS CHOSEN):

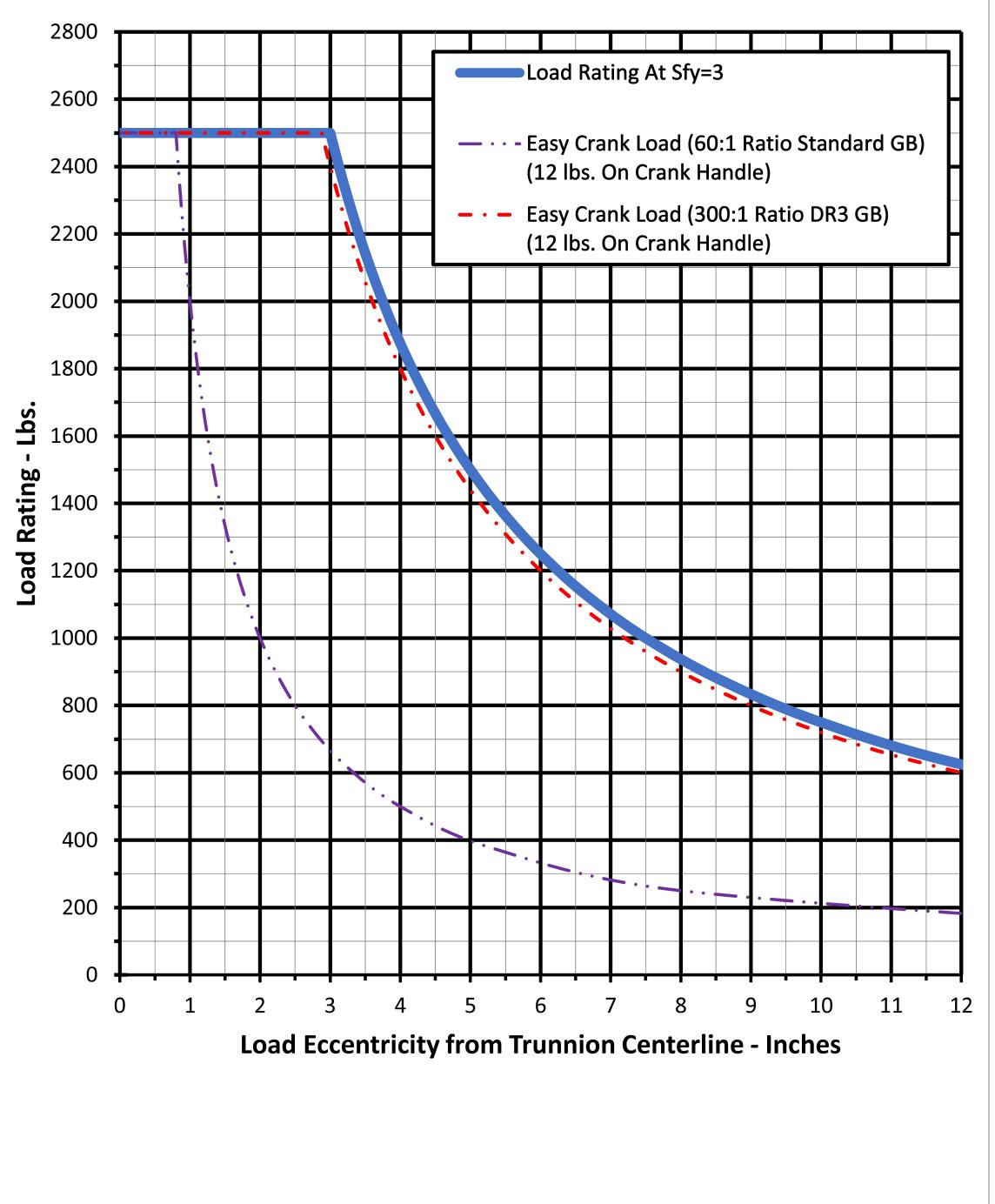
- PROOF LOAD WEIGHT = 2 X 1,800 LBS = 3,600 LBS
- 2. 100% PRIMARY AXIS RATED TORQUE = 12,000 IN-LBS
- 3. 100% SECONDARY AXIS RATED TORQUE = 10,000 IN-LBS

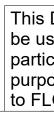
SECONDARY AXIS PROOF LOAD TEST PROCEDURE (ROTATES LOAD 90°):

- 1. VERIFY THAT ALL STRUCTURAL COMPONENTS HAVE BEEN PROPERLY ASSEMBLED AND ALL BOLTS HAVE BEEN TORQUED. 2. WEIGH PROOF LOAD TO MAKE SURE IT MEETS REQUIREMENT AND TAKE A PICTURE OF PROOF LOAD ON SCALE WITH LOAD VALUE ON SCALE VISIBLE FOR PROOF LOAD REPORT.
- 3. WHILE SUPPORTING PROOF LOAD WEIGHT TORQUE PROOF LOAD MOUNTING BOLTS THEN SLOWLY OFFLOAD PROOF LOAD WEIGHT ONTO FIXTURE.
- 4. STOP AS REQUIRED TO REVIEW AND INSPECT ANY UNEXPECTED NOISES OR MOVEMENTS.
- 5. START TIMER AND TAKE A PICTURE OF TIMER. HOLD FOR (5) FIVE MINUTES. AFTER 5 MINUTES VISUALLY INSPECT FOR CRACKS, DEFORMATION, ETC. TAKE ANOTHER PICTURE OF TIMER.
- 6. ROTATE PROOF LOAD 90°, START TIMER AND TAKE A PICTURE OF TIMER. HOLD FOR (5) FIVE MINUTES. AFTER 5 MINUTES VISUALLY INSPECT FOR CRACKS, DEFORMATION, ETC. TAKE ANOTHER PICTURE OF TIMER.

DELIVERABLE REPORT REQUIRED. IT MUST INCLUDE:

- A) A SUMMARY OF THE TEST PROCEDURE
- B) A PICTURE OF THE ACTUAL MEASURED WEIGHT OF PROOF LOAD ON SCALE. WEIGHT MUST BE EQUAL TO OR HIGHER THAN REQUIRED WEIGHT.
- C) PICTURE OF TIMER WITH PROOF LOAD THAT SHOWS 5 MINUTES OR LONGER FOR EACH TEST.
- D) VISUAL INSPECTION RESULTS





SFP-747 Dynamic Loading

(1.0 G Vertical & 0.5 G Horizontal)

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