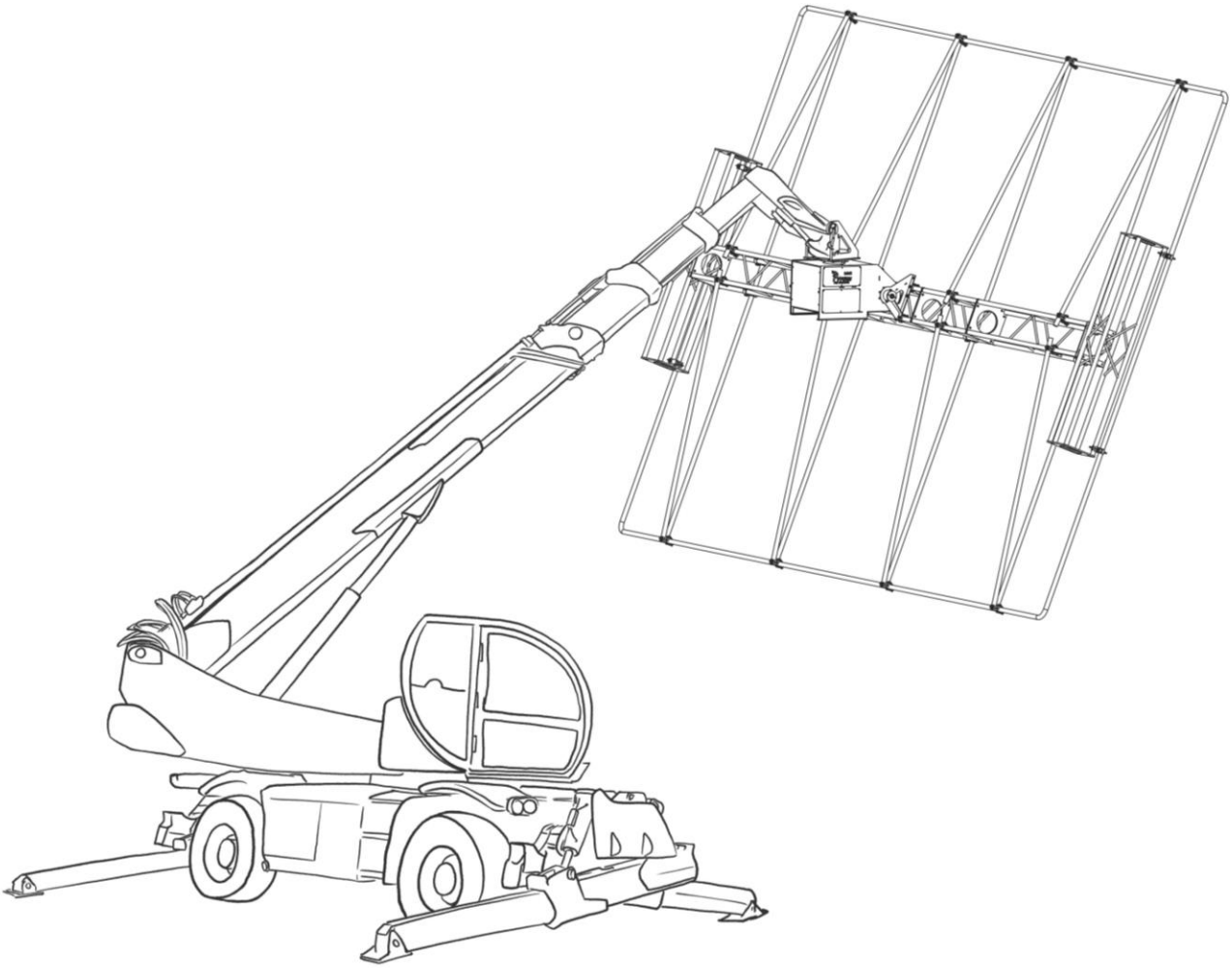
F.S. PYTHON ROTATOR LRX

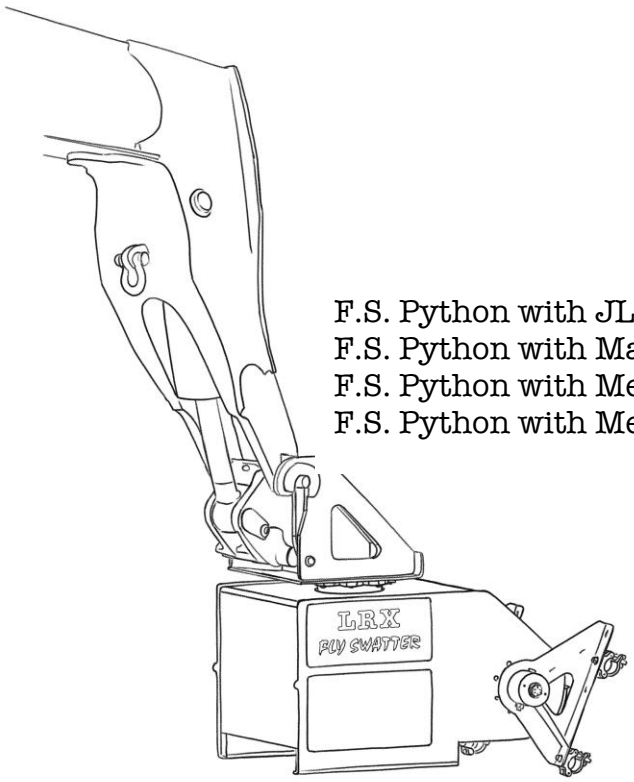
The F.S. Python Rotator is intended to be used as an attachment for telescopic forklifts. This unit can be mounted using the universal fork attachment or direct attachment. This unit provides two axes of rotation; Pan (left / right) and Tilt (up / down). A user designed and constructed assembly provides mounting for a variety of fabric or lighting options. This unit is powered by an onboard battery. It is advisable to charge the unit when not in use. (U-Ground charger plug is located under rear access door). Note: battery can't be overcharged. Average off charge, power on standby: 24 hours usable. Recharge time is approximately five hours.

A lightweight user designed and supplied truss structure mounts onto the output plates. These output plates accept half cheese borough type clamps with spacings that mate with twelve, sixteen or twenty inch box truss.

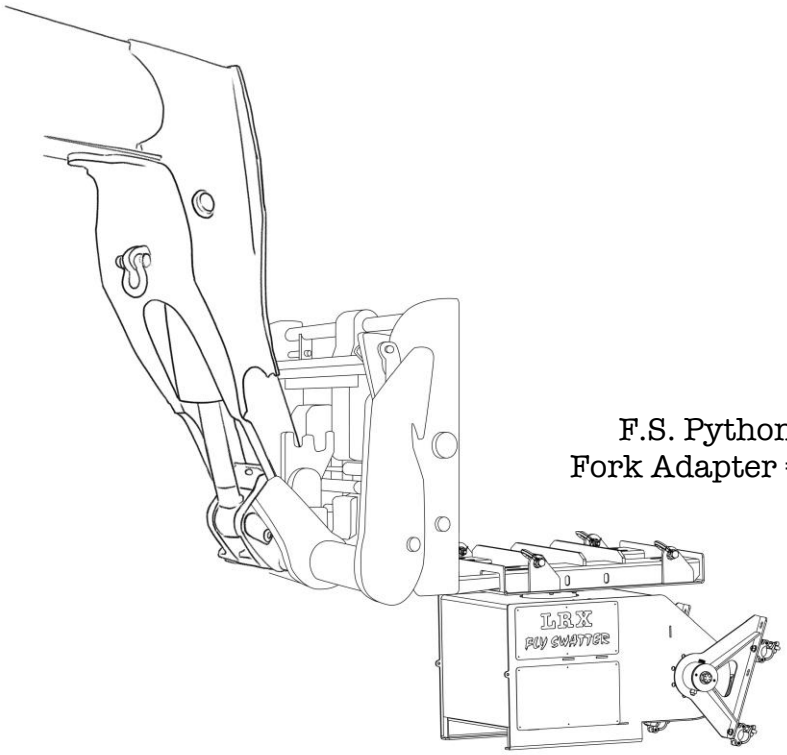

See notes for use: limitations and installation on to a telehandler.



F.S. PYTHON ROTATOR LRX



F.S. Python with JLG Adapter = 416 kg / 915 lbs
F.S. Python with Magni Adapter = 431 kg / 950 lbs
F.S. Python with Merlo 9K Adapter = 439 kg / 966 lbs
F.S. Python with Merlo 13K Adapter = 468 kg / 1030 lbs



F.S. Python with Universal
Fork Adapter = 465 kg / 1025 lbs

F.S. PYTHON ROTATOR LRX

⚠ WARNING

READ TELEHANDLER MANUAL
& PYTHON MANUAL BEFORE USE

SAFETY INSTRUCTIONS

1) F.S. Python Rotator Base: 341 kg / 750 pounds.
2) F.S. Python Adapters:
   - F.S. Python Universal Fork Adapter: 125 kg / 275 pounds.
   - F.S. Python to JLG Adapter: 75 kg / 165 pounds
   - F.S. Python to Magni Adapter: 91 kg / 200 pounds.
   - F.S. Python to Merlo 9K Adapter: 98 kg / 216 pounds.
   - F.S. Python to Merlo 13K Adapter: 127 kg / 280lbs

   Note: Install Adapters using eight 5/8-11 x 2.00" grade 8 bolts with lock washers and flat washers, torque to 159 ft/lbs
3) The load must be evenly distributed, side to side and front to back.
4) Maximum load: 2,210 lbs. (truss structure + wind load)
5) Example: A 30' x 30' frame could be 1,400 lbs. of truss structure and when covered creates a surface area of 900 sq/ft X 0.89 PSF (18.7 MPH / 30KPH) wind loading = 810 lbs. Total load 2,210 lbs.
6) Wind load formulas:
   - $PSF=MPH^2 \times .00256$
   - $P (Pa) = KPH^2 \times 0.317$
   - MPH = 1.61 KPH
   - KPH = 0.622 MPH

7) Ensure unit meets all local codes prior to operation.
8) Truss structure by others; to be approved by a professional engineer to safely carry anticipated loads.
9) F.S. Python, truss structure & wind loading calculations are the responsibility of the user.
10) Ensure telehandler can support the total load: Swatter, truss structure and the wind load being applied.
11) Telehandler side loading: Maximum 3% of capacity chart or less if limited by the telehandler OEM's specs and instructions.

F.S. PYTHON ROTATOR LRX

12) Load limits never to be exceeded.
13) Follow all telehandler manufactures guidelines and operating procedures.
14) It is the user's responsibility and obligation to determine and comply with all applicable laws and regulations.
15) Operator must stay with unit when in operation.
16) It is recommended to develop a truss recovery procedure with the telehandler and to set a position with minimum sail area.
17) It is recommended that a means to partially release the fabric be used to relieve wind pressure on the structure in the event of unexpected wind gusts.
18) The installation, operation, and servicing of this unit to be carried out only by only authorized and qualified personnel certified in jurisdiction of use.
19) Daily pre-operational inspection and log required.
20) Do not operate if unit appears damaged, report damage immediately.
21) Activate mechanical E-stop when data signal is absent or when unit is not in use.
22) Electronic E-stop is automatically activated when data cable is removed or damaged.
23) Activate mechanical E-stop when unit is in transit.
24) In case of malfunction activate hand controller electronic E-stop and mechanical E-stop if accessible, discontinue use, notify supplier.
25) To reinstate operation, hold unlock and direction key, (electronic E-stop only).
26) Never operate with any covers removed.
27) No personal within range of motion during operation.
28) Area under F.S. Python and telehandler should be always cordoned off.
29) Observe pinch points.
30) No user serviceable parts.

DANGER

- Dangerous voltages are present inside this unit.
- Best practice electrical procedures must be followed when using this unit.
- Ensure all power supplies are off when connecting or disconnecting any cabling.
- Power must be removed & switches returned to the off position when not in use and when the data signal is removed.
- Ensure unit meets all local codes prior to operation.
- In case of emergency activate any E-Stop if safe to do so.

F.S. PYTHON ROTATOR LRX

WARNING

- This unit has rotating parts with pinch points.
- Unit may move without warning.
- No personnel are permitted within the range of motion.
- This unit can develop 4,000 lb/ft. output torque which could create a hazardous crushing force; serious injury or death may result.
- In case of emergency activate any E-Stop if safe to do so.
- Never operate with any covers missing.

F.S. Python Rotator Specifications

Electrical:

- Lithium Battery (48VDC)
- Battery charger requires 120-240 VAC @ 7-3.5 amps (non-dimmed line).
- It is advisable to charge the unit when not in use. (U-Ground charger plug is located under rear access door). Note: battery can't be over charged
- Average off charge, power on standby 24 hours usable. Recharge time is approximately five hours.
- U-Ground charging lead must have a reliable earth conductor.

Physical:

- Tilt: Ninety degrees. Vertical to horizontal.
- Pan: Continuous (only limited by attached structure)
- Dimensions: 26" wide x 41" long x 24" high
- Output torque: Maximum 4,000 lb./ft. (electronically limited)
- F.S. Python Rotator Base: 750 pounds.
- F.S. Python Attachment Plates:
    - F.S. Python Universal Fork Adapter: 125 kg / 275 pounds.
    - F.S. Python to JLG Adapter: 75 kg / 165 pounds
    - F.S. Python to Magni Adapter: 91 kg / 200 pounds.
    - F.S. Python to Merlo 9K Adapter: 98 kg / 216 pounds.
    - F.S. Python with Merlo 13K Adapter: 127 kg / 280lbs

Torque attachment bolts (5/8-11 bolt Grade 8) to 159 lb./ft.

F.S. PYTHON ROTATOR LRX

Load Capacity:

- The load must be evenly distributed, side to side and front to back.
- Maximum load: 2,210 lbs. (truss structure + wind load)
- Example: A 30' x 30' frame could be 1,400 lbs. of truss structure and when covered creates a surface area of 900 sq/ft X 0.89 PSF (18.7 MPH / 30KPH) wind loading = 810 lbs. Total load 2,210 lbs.

Wind load formulas:
$PSF=MPH^2 \times .00256$
$P (Pa) = KPH^2 \times 0.317$
1 MPH = 1.61 KPH
1 KPH = 0.622 MPH

Wind/Load Reference Table

This table is to be used as a guideline only. Applications should be evaluated on a case by case basis and approved by a professional engineer.

Wind Speed KPH	Wind Speed MPH	Wind Load lb/ft2	10' X 10' Load in lbs	20' X 20' Load in lbs	20' X 30' Load in lbs	30' X 30' Load in lbs	30' X 40' Load in lbs	40' X 40' Load in lbs
8	5	0.06	6.40	25.60	38.40	57.60	76.80	102.40
16	10	0.26	25.60	102.40	153.60	230.40	307.20	409.60
25	15	0.58	57.60	230.40	345.60	518.40	691.20	921.60
33	20	1.02	102.40	409.60	614.40	921.60	1,228.80	1,638.40
41	25	1.60	160.00	640.00	960.00	1,440.00	1,920.00	2,560.00
49	30	2.30	230.40	921.60	1,382.40	2,073.60	2,764.80	3,686.40
57	35	3.14	313.60	1,254.40	1,881.60	2,822.40	3,763.20	5,017.60
65	40	4.10	409.60	1,638.40	2,457.60	3,686.40	4,915.20	6,553.60
73	45	5.18	518.40	2,073.60	3,110.40	4,665.60	6,220.80	8,294.40
81	50	6.40	640.00	2,560.00	3,840.00	5,760.00	7,680.00	10,240.00
89	55	7.74	774.40	3,097.60	4,646.40	6,969.60	9,292.80	12,390.40
97	60	9.22	921.60	3,686.40	5,529.60	8,294.40	11,059.20	14,745.60

F.S. PYTHON ROTATOR LRX

OPERATING INSTRUCTIONS

Hand Controller:

- The hand controller indicates the battery status, the first operation post sleep / at initial power up may take several seconds.
- Unit will not operate when low battery is detected. Recharge time is approximately five hours.

Emergency Battery Disconnects:

- E-Stop button is located on left side panel. Switch off when not in operation.
- Electronic E-stop is automatically activated when data cable is removed or damaged.
- Electronic E-Stop can also be activated at the hand controller.

Safety Interlock:

- The Functions Enable/Unlock Keys (bottom of the hand control enable/unlock key) needs to be held to enable motion.
- *If any other key is pressed without "*FUNCTION ENABLE/UNLOCK" the display will show "lck" (Locked).

Initiate Motion:

- Hold either of the *"*FUNCTION ENABLE" keys, the display changes to "rdy" (ready).
- Press the desired direction key (◄ ►▼▲) while still holding a "FUNCTION ENABLE" key – (post sleep / first power up may take several seconds to respond).

Speed Control:

- The rabbit & turtle buttons will increase and decrease drive speeds as required.

Sleep modes (when idle):

- 50 seconds to hand control sleep mode (blank display), press "FUNCTION ENABLE" to wake the fixture.

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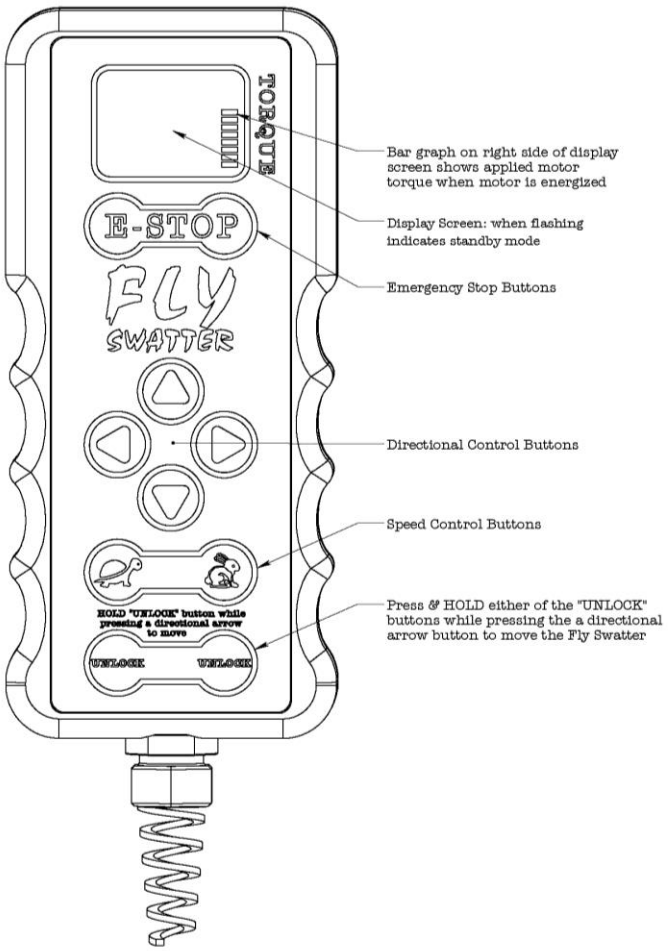
F.S. Python Hand Controller:

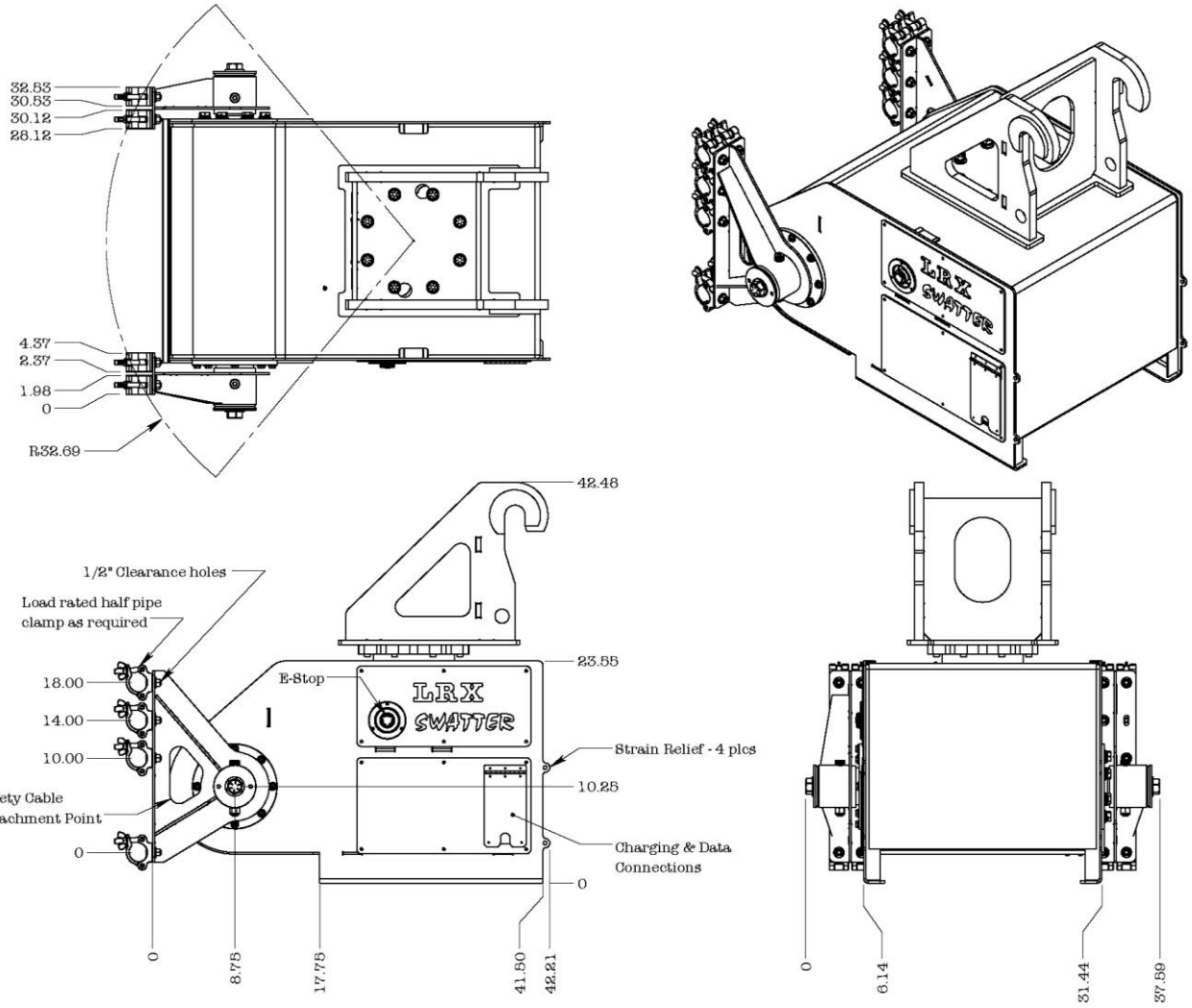


F.S. PYTHON ROTATOR LRX

F.S. Python Direct Connect Adapters:

- F.S. Python with JLG Adapter: 416 kg / 915 lbs
- F.S. Python with Magni Adapter: 431 kg / 950 lbs
- F.S. Python with Merlo 9K Adapter: 439 kg / 966 lbs
- F.S. Python with Merlo 13K Adapter: 468 kg / 1030 lbs

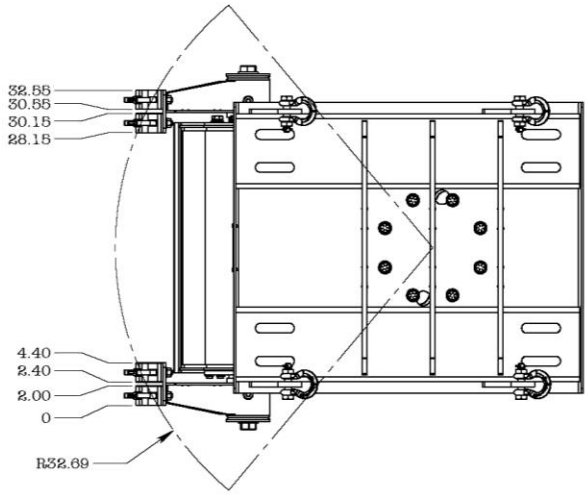
Note: Install Adapters using eight 5/8-11 x 2.00” grade 8 bolts with lock washers and flat washers, torque to 159 ft/lbs

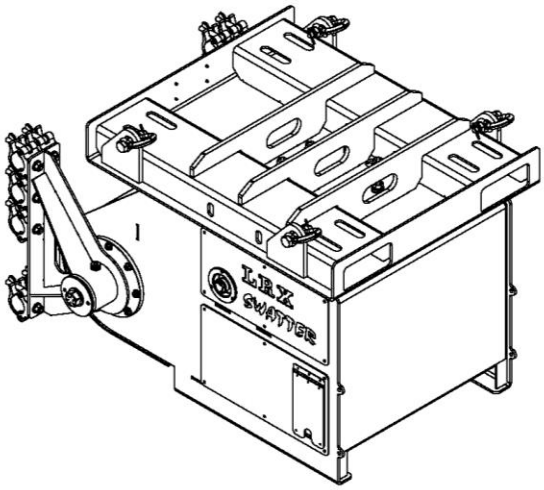


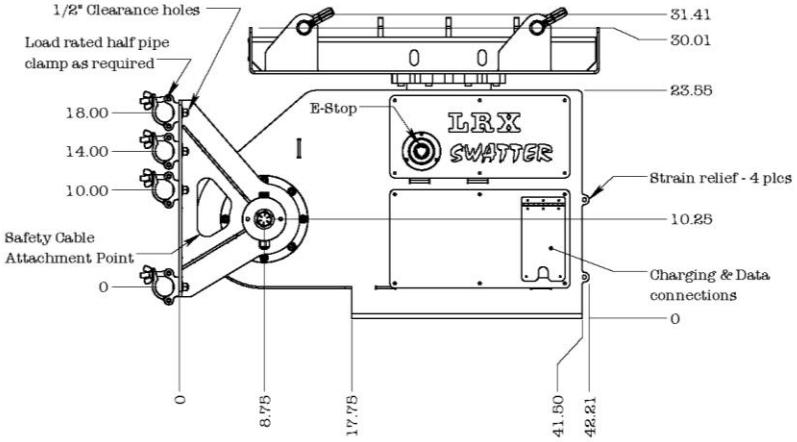
F.S. PYTHON ROTATOR LRX

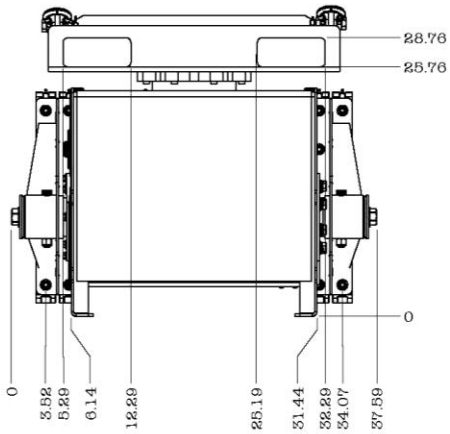
F.S. Python with Universal Fork Plate Adapter: 465 kg / 1025 lbs.

Note: Install Adapters using eight 5/8-11 x 2.00” grade 8 bolts
with lock washers and flat washers, torque to 159 ft/lbs









F.S. PYTHON ROTATOR LRX

F.S. Python Truss Installation:

Truss mounting plates provide mounting positions for 12", 16" & 20" truss.
F.S. Python, telehandler, truss structure and wind loading calculations are the responsibility of the user.
Truss, design, and installation by others.
A minimum of four pipe clamps are required.
Clamp type, quantity and configuration specified by user.
All pipe clamps should be load rated and inspected daily.
Always use safety cables.
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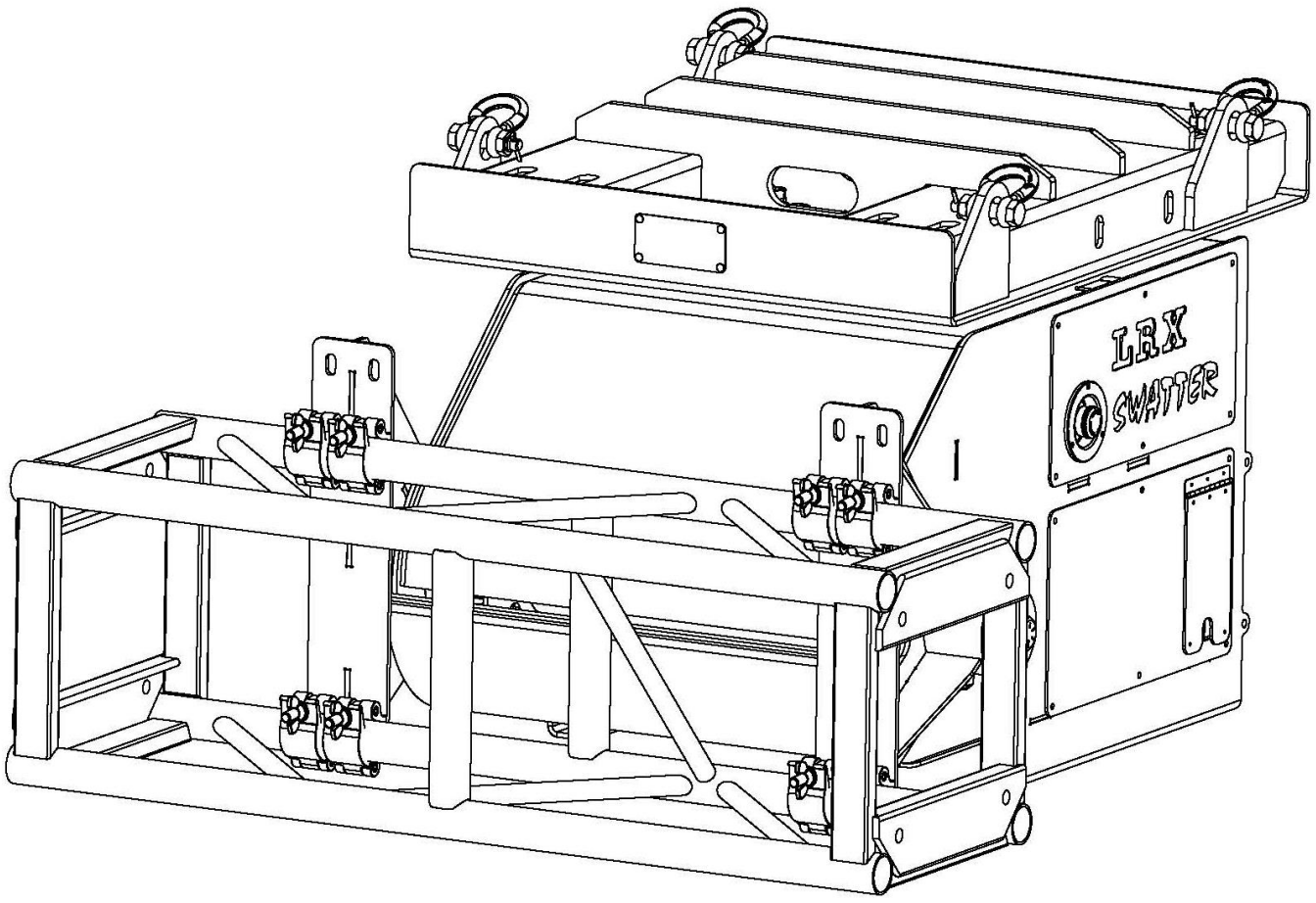

F.S. PYTHON ROTATOR LRX

F.S. Python Universal Fork Mount:

- Fully insert forks into fork pockets.
- Fasten load rated 3/8” chain to Python rear shackle mounting ear, using 1.5-ton bolt type shackles to Python fork pocket base, (shackle bolt must be captivated).
- Route the chain under the fork carriage base and then over the fork pin, so that the forks are locked to the fork carriage.
- Remove additional slack and lock into place using the 3/8” ratchet type load binder.
- Double chain back on itself and secure in place with wire.
- Repeat for other side.

F.S. PYTHON ROTATOR LRX

General Check List:

Read and understand this manual.
Truss structure designed and approved to safely carry anticipated loads.
F.S. Python, truss structure and wind loading calculations performed.
Total loads are within F.S. Python Rotator and telehandler capacity.
Telehandler inspected per OEM requirements.

Upper Assembly Forks:

The upper assembly checked for cracks, deformation, or other damage.
The upper to lower fasteners tight, check witness marks.
Torque eight connecting bolts (5/8-11 bolt Grade 8) to 159 lb./ft.
Chains inspected for cracks, deformation, or other damage.
Shackles inspected for cracks, deformation, or other damage.
Shackle pin wired shut.
Ratcheting binder inspected for cracks, deformation, or other damage.
Chain tie down lugs inspected for cracks, deformation, or other damage.
Chains routed to lock forks and Fly Swatter Rotator to fork carriage.

Upper Assembly Direct Connect:

The direct connect assembly checked for cracks, deformation, or other damage.
The upper to lower fasteners tight, check witness marks.
Torque eight connecting bolts (5/8-11 bolt Grade 8) to 159 lb./ft.
The lower connection pin is installed and secured.

Lower Assembly:

Truss mounting plate inspected for cracks, deformation, or other damage.
Axle bearing bolts are tight.
Inspect pipe clamps for cracks, deformation, or other damage.
All covers are undamaged and secure.
Battery charger, cord and plug are in good condition.
Hand Controller, cord and connectors are in good condition.
Function test assembled unit.
Tie strain relief to all cables.