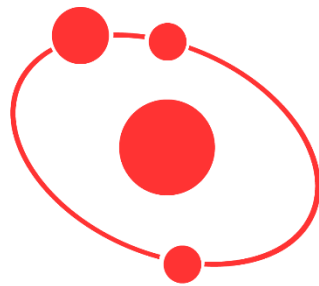


AMPERE **EV**



ATOM
DRIVE SYSTEM

IM-225 Install Guide

Lawson Sumner

V1.0

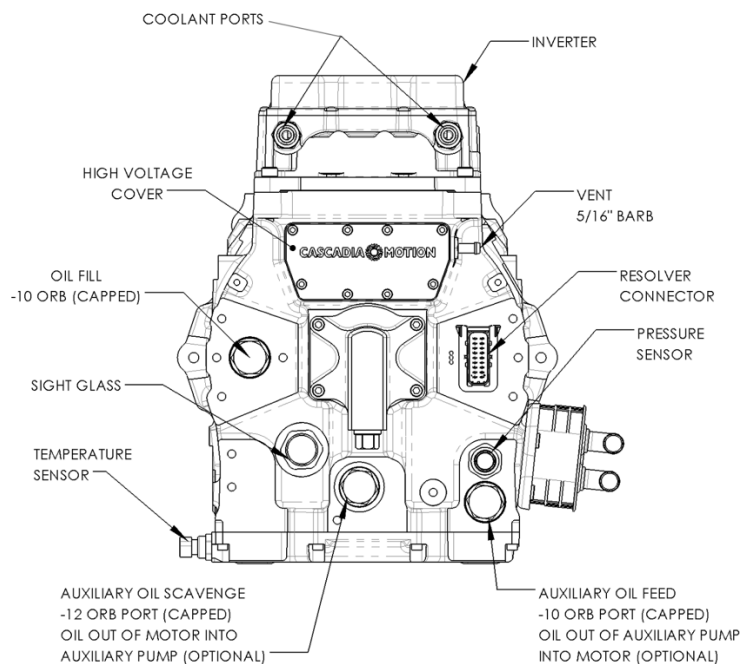


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Overview



Supported Gearboxes

Supported Gearboxes include:

- Torque Trends TorqueBox
- Cascadia Motion SR309

Oiling

Approved Oils

- Dexron VI ATF (Preferred)
- Transynd ATF (Synthetic Formulation Of Dexron VI Made By Mobil 1)
- Shell Spirax S6 ATF A295 – Made By Shell For ATF Application
- Lubrizol OS183539V
- BASF (Manual Transmission Fluid)

Oil Fill Procedure

1. Remove drain plug & drain motor of oil.
2. Install drain plug. Torque to 20 N·m (15 ft·lbf)
3. Remove oil fill cap.
4. Fill with 1.9L of approved oil. (2.1L if equipped with SR309 gearbox)
5. Install oil fill cap. Torque to 20 N·m (15 ft·lbf).
6. Inspect sight glass to verify oil is present.
7. Spin motor to circulate the oil.



- 8. Oil level in sight glass to be observed at 1/4 - 1/2 on level ground after spin.

Oil Pump

Ampere EV ships motors with oil control ring flipped the proper direction depending on the gearbox configuration. If the motor is used in a non-standard configuration, this may need to be changed. Please contact techsupport@ampereev.com for additional information.

Cooling

Approved Coolant - 50/50% ethylene glycol & water

Flow Direction

- Into inverter and out of the motor heat exchanger.

Coolant System Requirements for 100kW sustained operation

- flow rate of 12 LPM
- Coolant temperature to inverter of 60° C max
- Lower water temperature allows higher continuous power.

Coolant Fittings

- 2x 5/8” hose barbs on the back side of the inverter are standard equipment.
- 2x 5/8” barb connections on the heat exchanger

Spline

INTERNAL INVOLUTE SPLINES DATA

FILLET ROOT SIDE FIT, TOLERANCE CLASS - 5H
SIMILAR TO ANSI B92.2M-1980 (R1989)

NUMBER OF TEETH -----	24
MODULE -----	1.000
PRESSURE ANGLE -----	30.0 °
PITCH DIAMETER (REF) -----	24.000
BASE DIAMETER (REF) -----	20.785
MAJOR DIAMETER -----	26.04 - 25.80
MINOR DIAMETER -----	23.28 - 23.09
FOR DIAMETER (MIN.) -----	25.20
CIRCULAR TOOTH SPACE MIN. EFFECTIVE -----	1.571
CIRCULAR TOOTH SPACE MAX. ACTUAL -----	1.626
FILLET RADIUS MINIMUM -----	N/A
PIN DIAMETER -----	2.000
MEASUREMENT BETWEEN PINS (REF) -----	20.695 - 20.626

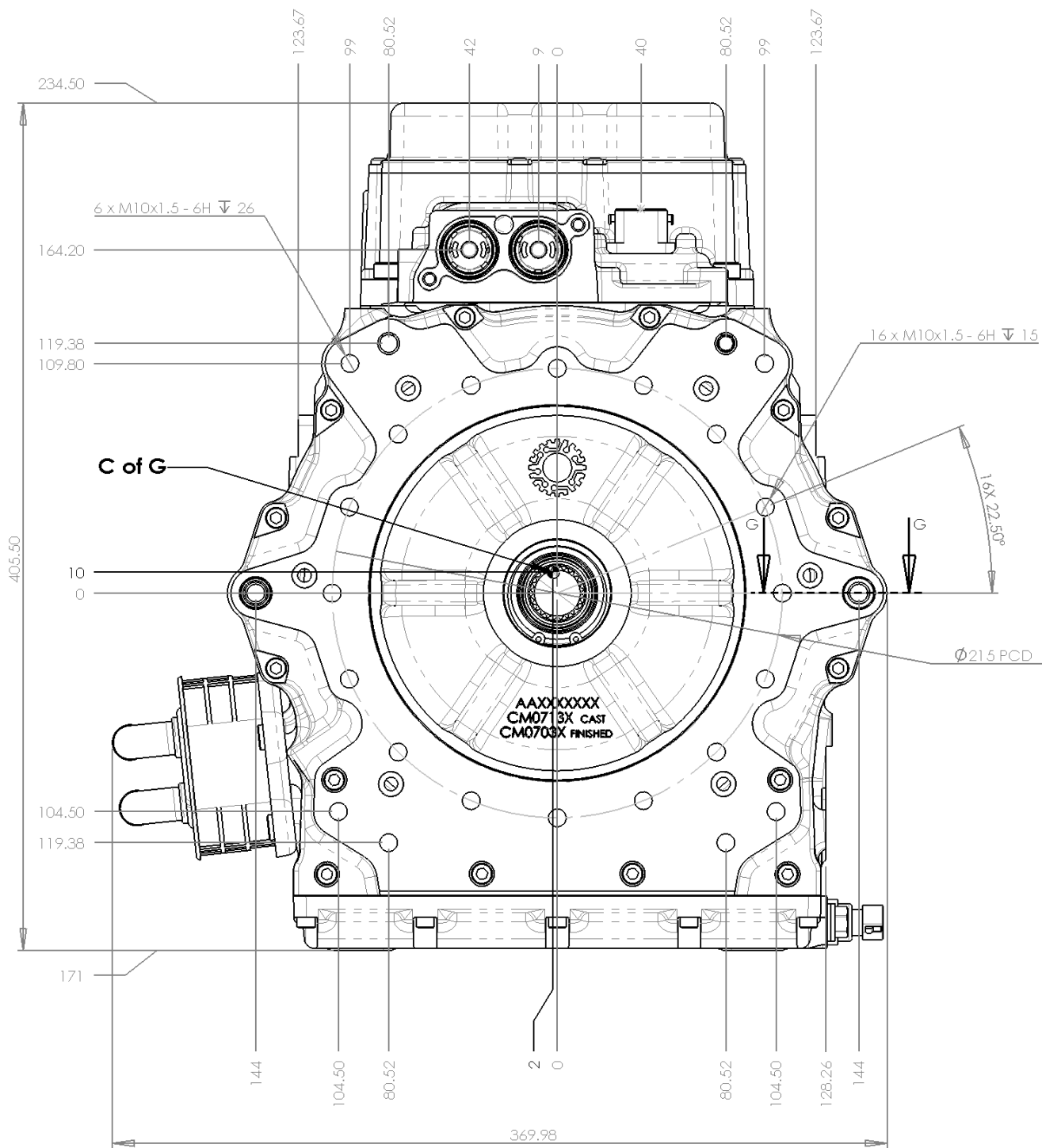


Mounting

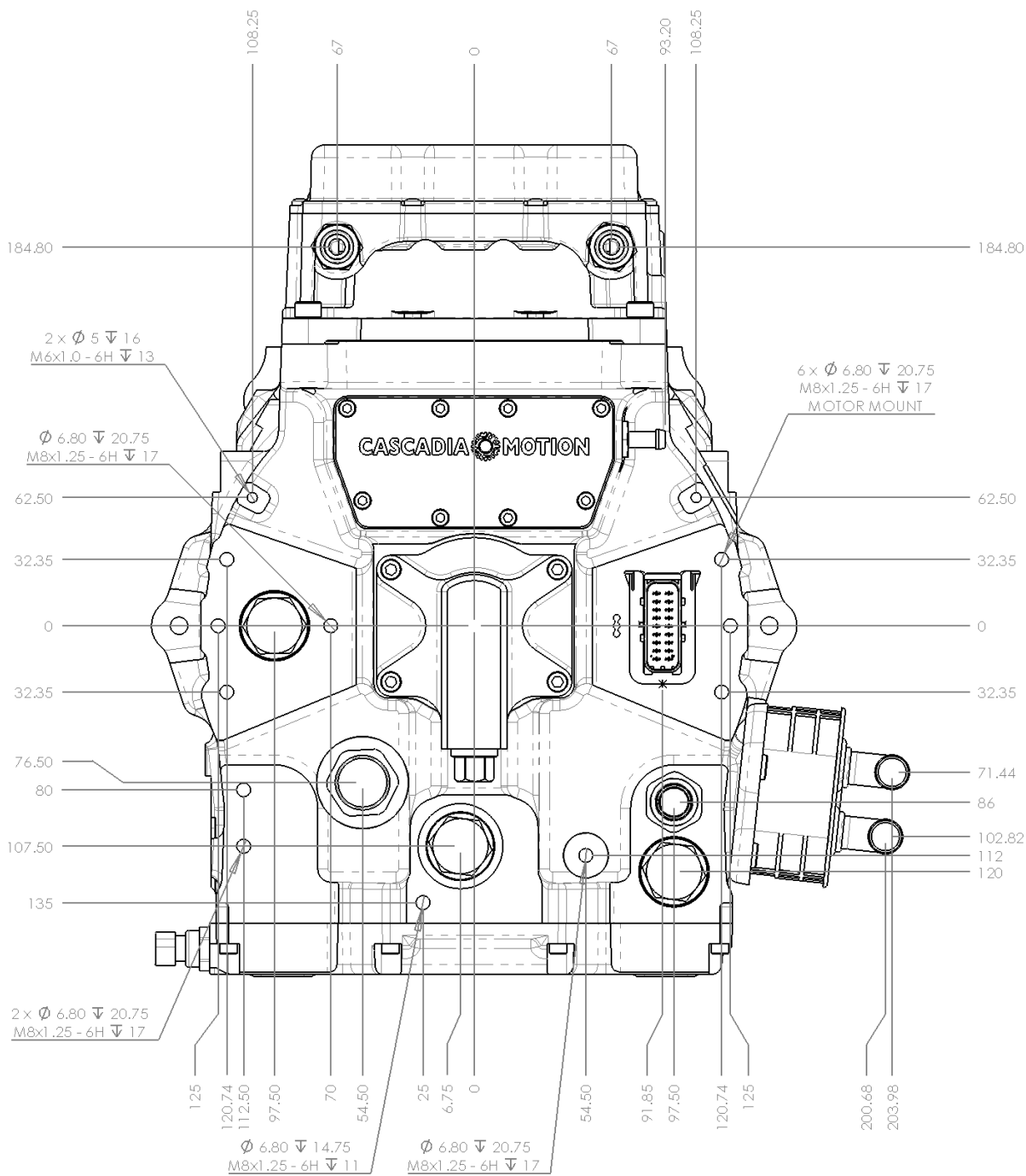
Six rear motor mount locations (three per side) are provided at the centerline and 32.35mm above and below centerline.

Motor Mounting Tips:

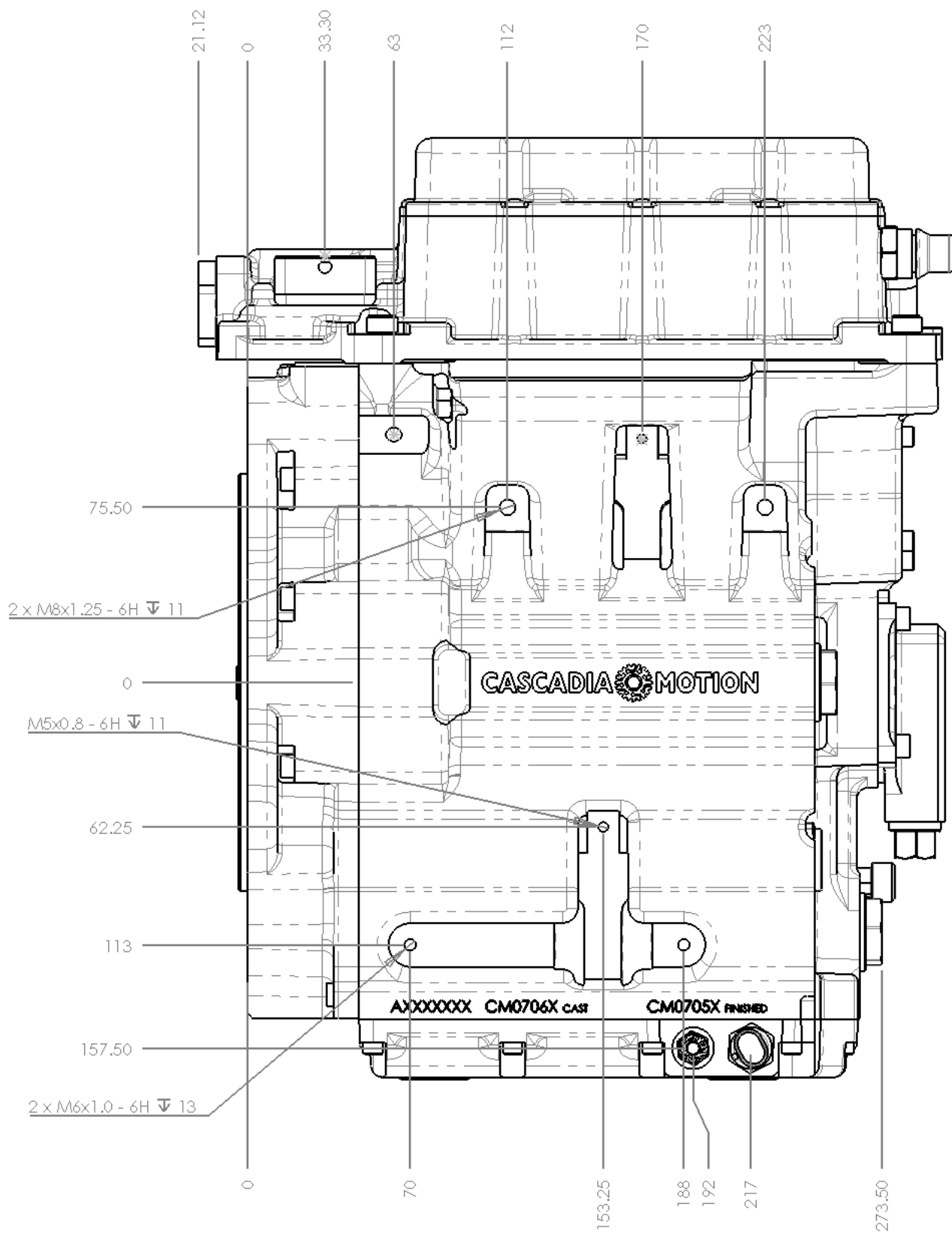
- Isolate your motor and gearbox from the chassis. Use rubber mounts to provide this isolation like engine mounts. A rubber durometer between 60 and 90 is recommended. In many cases, engine mounts can be used for this purpose.
- Do not mount the motor at an angle of more than 15 degrees relative to horizontal.



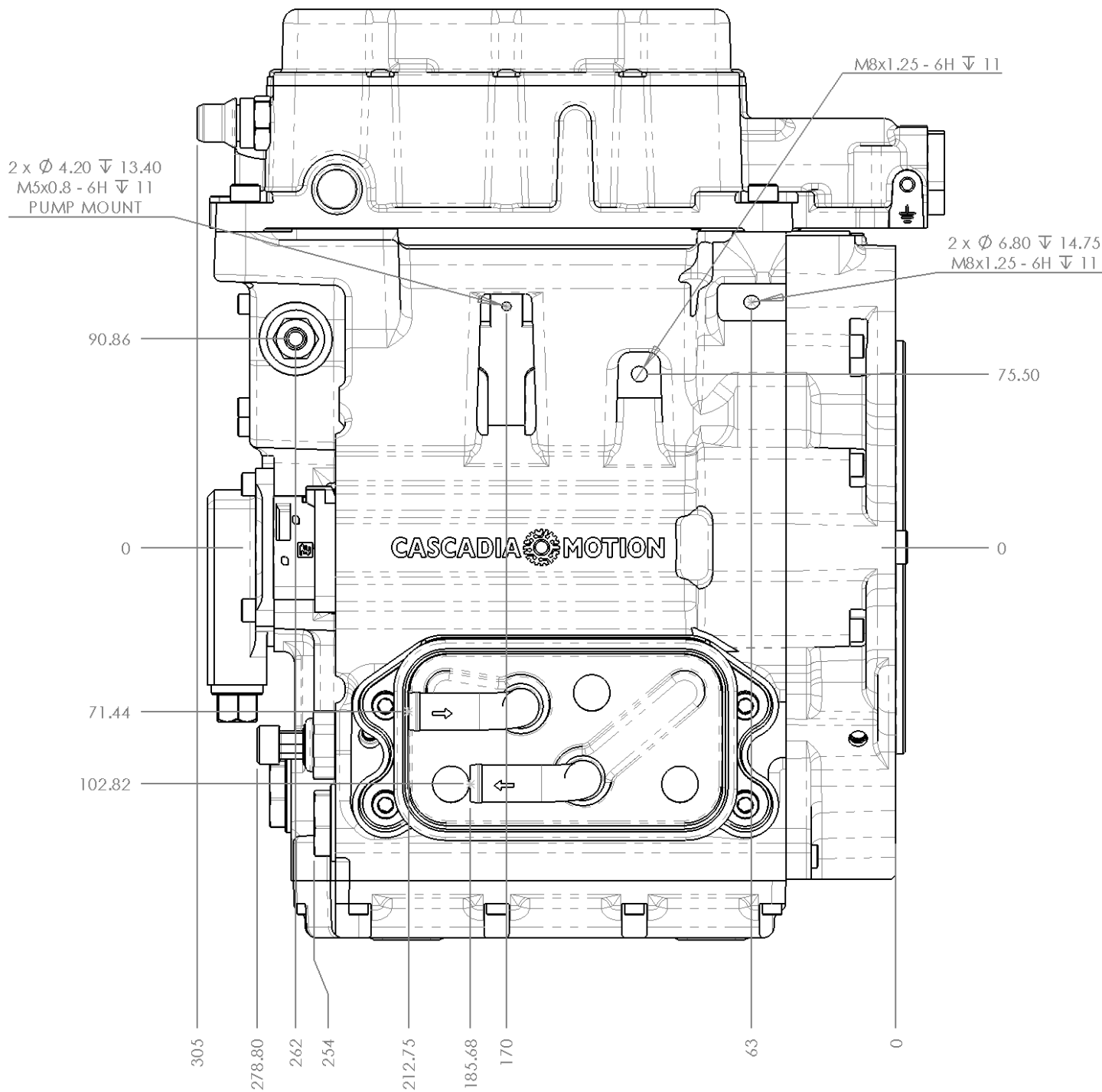
Front



Rear



Left



Right



REVISION HISTORY

Version	Description of Version/Changes	Updated by	Date
1.0	First pass at assembling all relevant information.	Ethan Foster/Lawson Sumner	8/11/23