

AutoBoom® XRT Mechanical Integration Specifications

P/N 016-0235-003 Rev. A Jul 2022 E6969



Note: *This guide is to be used as a general mounting reference. In the event the specified design requirements cannot be achieved, consult Raven Technical Service to discuss alternative mounting options.*

AutoBoom® ECU (ABM) Specifications



(P/N 063-0174-066)

Mounting Location

Mounting location is on the machine chassis:

- Mount ABM on chassis frame.
- Mount with connectors in the down position.
- Must mount rigid with limited vibration.
- Overall Dimensions: 4.70 x 5.26 (in.)

Protection

Must provide protection for the ABM cabling:

- Cable must be routed away from pinch points.
- Cable must be routed to prevent damage.
- Cable must be properly secured to avoid interference.

Connector Specifications

J1 Gray 12-Pin DTM		
Pin	Description	Color
1		
2		
3	LOGIC PWR	Red
4		
5	ABM SUBNET CAN HI	Yellow

J1 Gray 12-Pin DTM		
Pin	Description	Color
6	ISO CAN HI	Yellow
7	ISO CAN LO	Green
8	ABM SUBNET CAN LO	Green
9		
10	LOGIC GND	Black
11		
12		

ABM Connector Pinout:

- Supply Voltage: 8-36 VDC
- Current: 60 mA
- ISO11783 CAN Protocol
- IP rating: IP67
- Deutsch DTM 12-pin
 - GRAY: DTM06-12SA
 - GREEN: DTM06-12SC

Raven Expansion Module (REM) Specifications



(PN 063-0173-965)

Mounting Location

Mounting location is on the center rack:

- Mount REM on machine center rack.
- Mount with connectors in the down position.
- Mount with indicator lights visible.
- Overall Dimensions: 2.40 x 10.19 x 8.94 (in)
- Mounting Holes: 3 x 6.35 (mm)

Protection

Must provide protection for the REM cabling:

- Cable must be routed to prevent damage.
- Cable must be properly secured to avoid interference.

Connector Specifications

REM Connector Pinout:

- Supply Voltage: 9-16 VDC
- Current: 22 mA
- IP Rating: IP67

- AMPSEAL Connectors
 - AMPSEAL 23 PIN GRAY: 770680-4
 - AMPSEAL 23 PIN BLACK: 770680-1
 - AMPSEAL 35 PIN BLACK: 776164-1

Radar Specifications



(Boom Height Sensor; P/N 063-0173-962)

Mounting Location

Ideal mounting location is within the structure of the boom in front of the spray nozzles:

- Mount Radar bracket midway between spray nozzles.
- Mount outer sensor approximately 39" (1m) from the end of the boom.
- Mount Intermediate Radar on primary section of boom.
- Mount with connector directed toward center of machine.
- Mounting on Center Rack is required.
- Ensure brackets do not interfere with spray nozzles with folding of booms.
- Mounting bolts: M6 size.

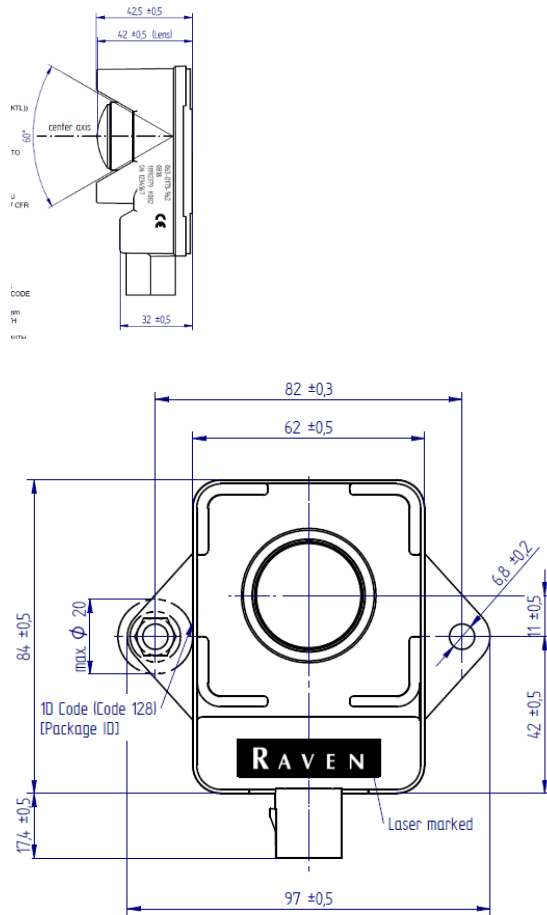
Mounting Angle

- Angle: $90^{\circ} \pm 1^{\circ}$.
- Measured with the machine level, in relation to the radar and the ground.

Field of View

- From the sensor, a 70° cone (from the base of the sensor) should be clear of obstructions (except the ground).

Sensor Dimensions



- The sensor is 0.45 in. [11.43 mm] above the base plate as seen in the image above and the cone follows the contours of the sensor enclosure body.
- Dimensions of the sensor (mm).

Protection

Must provide protection for the sensor:

- Cable must be routed away from pinch points.
- Cable must be routed to prevent damage.
- Cable must be properly secured to avoid interference.

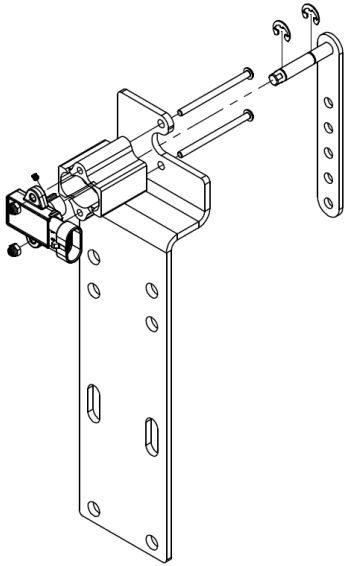
Connector Specifications

Mating Connector AMPSEAL 16	
776524-1	
Pin 1	+Vs
Pin 2	CAN HI
Pin 3	GND
Pin 4	CAN LO

Radar Connector Pinout:

- Supply Voltage: 9-16 VDC
- Current: <160 mA each
- IP Rating: IP69K
- Ampseal 16: 776524-1

Rotary Position Sensors Specifications



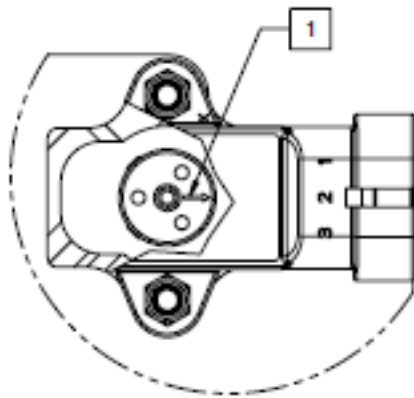
Mounting Location

Mounting location on the center rack:

- Mount sensor on the fixed portion of the center rack.
- Mount with linkage hanging down.
- Arrow on magnet must point to connector.
 - Mid-range of effective reading range.

Mounting location on fold joints:

- Mount with linkage hanging down.



DETAIL A
MAGNET ORIENTATION DETAIL
SCALE 1 : 1

Protection

Must provide protection for the linkage:

- Linkage must move freely.
- Cable must be routed to prevent damage from crops or debris.
- Cable must be properly secured to avoid interference.

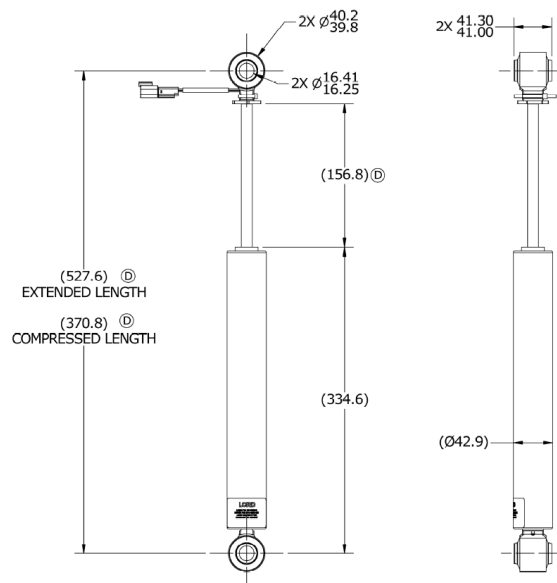
Connector Specifications

AMP Superseal		
Pin	Description	Color
1	POWER	Red/white
2	GROUND	Black
3	SIGNAL	Gray

Sensor Connector Pinout:

- Supply Voltage: 10 – 30VDC
- Current: 32 mA max
- Voltage Output: 0.5 – 4.5 VDC
- IP Rating: IP69K
- Amp SuperSeal Connector: 282087-1

Damper Specifications



(Variable MR Damper: PN 314-1000-001)

Mounting Location

Mounting location on the center rack:

- Mount with rod end down.
- Mount with damper mid stroke when center rack is level.

Protection

Must provide protection for the linkage:

- Damper must not extend beyond stroke length.
 - Travel stops may be required to limit stroke.
- Cable must be properly secured to avoid interference.

Connector Specifications

Connector Pinout:

- Supply Voltage: 12 VDC
- Current: 2 Amp max intermittent

- Resistance: 5 Ω approx.
- Deutsch DT 2-pin Connector