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# **BISOMAC210**

## **Pneumatic Traction Hoist**

### **Operator's Supplement Manual**

**Models: BISOMAC210-1000A**  
**BISOMAC210-1508A**  
**BISOMAC210-1500A**

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#### **WARNING:**

This supplement is a continuation of the BISOMAC210 Operator's Manual. Read both the manual AND the supplement before operating hoist. Failure to follow the safety precautions and instructions in the manual and the supplement could result in serious injury, death or damage to the hoist.

### 3. SPECIFICATIONS

#### 3.1 BISOMAC210 PNEUMATIC TRACTION HOIST

ALL BISOMAC210 PNEUMATIC TRACTION HOISTS:	
Noise	64 dB
Rated Speed	Up to 35 ft/min (10.6 m/min)
Hoist Self Weight	108 lb (49 kg)
Weight including safety devices	119 lbs (54 kg)
Dimension w/safety devices	29.5 in. (750 mm high) x 12.4 in. (315 mm width) x 17.9 in. (455 mm depth)
Dimension w/o safety devices	11.5 in. (292 mm high) x 12.4 in. (315 mm width) x 15.5 in. (394 mm depth)
Motor Power	4 hp
Safety Features	Spring Engaged Brake
	Controlled Descent Device
	Overspeed Detection Device
MAINTENANCE SPECIFICATIONS:	
Maintain approximately every 100 hours or no longer than once a year. See Maintenance Manual for instructions on maintaining. (this may differ from conditions of use at work sites, refer to the BISOMAC210 Electric Operator's Manual Section 4: Work Environment)	

#### 3.1.A BISOMAC210-1000A PNEUMATIC TRACTION HOIST

Model:	BISOMAC210-1000A	
Rated Load	750 lb (340 kg)	1,000 lb (450 kg)
Max. Air Pressure (U.S.A.)	65 psi (4.5 bar)	90 psi (6.2 bar)
Max. Air Pressure (CAN)	35 psi (2.4 bar)	45 psi (3.1 bar)
Motor Air Consumption	Avg. 35 cfm (Max 70 cfm)	
Wire Rope Diameter	5/16 inch (8 mm)	

#### 3.1.B BISOMAC210-1508A PNEUMATIC TRACTION HOIST

Model:	BISOMAC210-1508A		
Rated Load	750 lb (340 kg)	1,000 lb (450 kg)	1,500 lb (680 kg)
Max. Air Pressure (U.S.A.)	65 psi (4.5 bar)	90 psi (6.2 bar)	110 psi (7.6 bar)
Motor Air Consumption	Avg. 40 cfm (Max 70 cfm)		
Wire Rope Diameter	5/16 inch (8 mm)		

#### 3.1.C BISOMAC210-1500A PNEUMATIC TRACTION HOIST

Model:	BISOMAC210-1500A		
Rated Load	750 lb (340 kg)	1,000 lb (450 kg)	1,500 lb (680 kg)
Max. Air Pressure (U.S.A.)	65 psi (4.5 bar)	90 psi (6.2 bar)	110 psi (7.6 bar)
Max. Air Pressure (CAN)	35 psi (2.4 bar)	45 psi (3.1 bar)	65 psi (4.5 bar)
Motor Air Consumption	Avg. 40 cfm (Max 70 cfm)		
Wire Rope Diameter	3/8 inch (9 mm)		

**3.2      OVERSPEED DETECTION DEVICE**

Rated Load	750 lb (340 kg), 1000 lb (450 kg) or 1500 lb (680 kg)
Activation Speed	98.4 ft/min (30 m/min)
Dimension	10 in. (253 mm high) x 4.7 in. (120 mm width) x 4 in. (103 mm depth)
Weight	11 lb (5 kg)
Control Feature	NO descending while this device is activated.

**3.3      FILTER, REGULATOR AND LUBRICATOR**

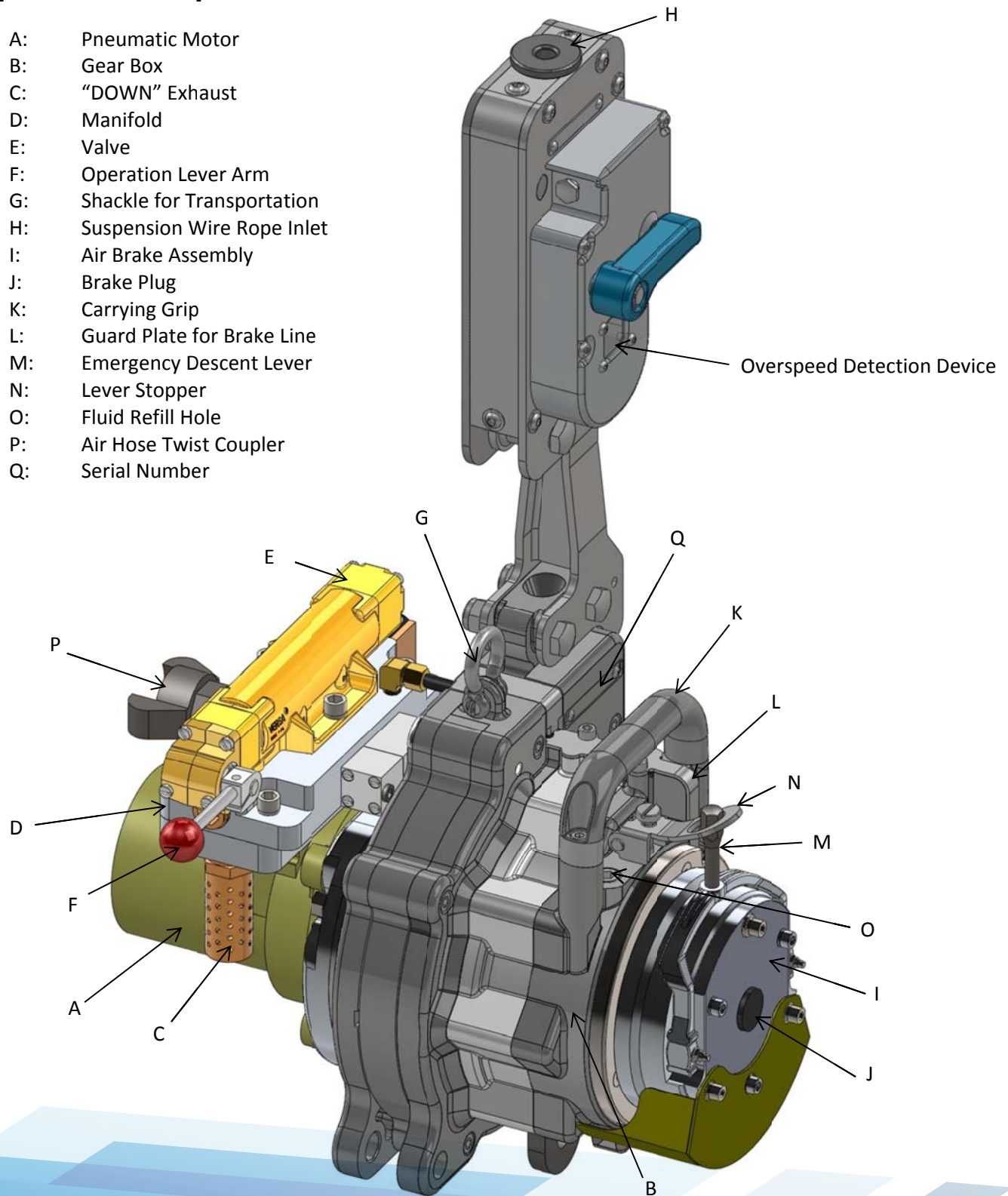
Max Inlet Pressure	250 psi
Temperature Range	23 - 175 F
Dimension	14 in. (355 mm high) x 12 in. (305 mm width) x 5 in. (127 mm depth)
Drain Type	Manual Drain (Auto Drain optional)
Lubricator Bowl Capacity	3.2 oz
Lubrication Type	Class 1 #10 Air Tool Oil
Lubrication Frequency	5-7 drops per minute

## 4. FUNCTION AND DESCRIPTION OF EACH COMPONENT

### 4.1 BISOMAC210 TRACTION HOIST

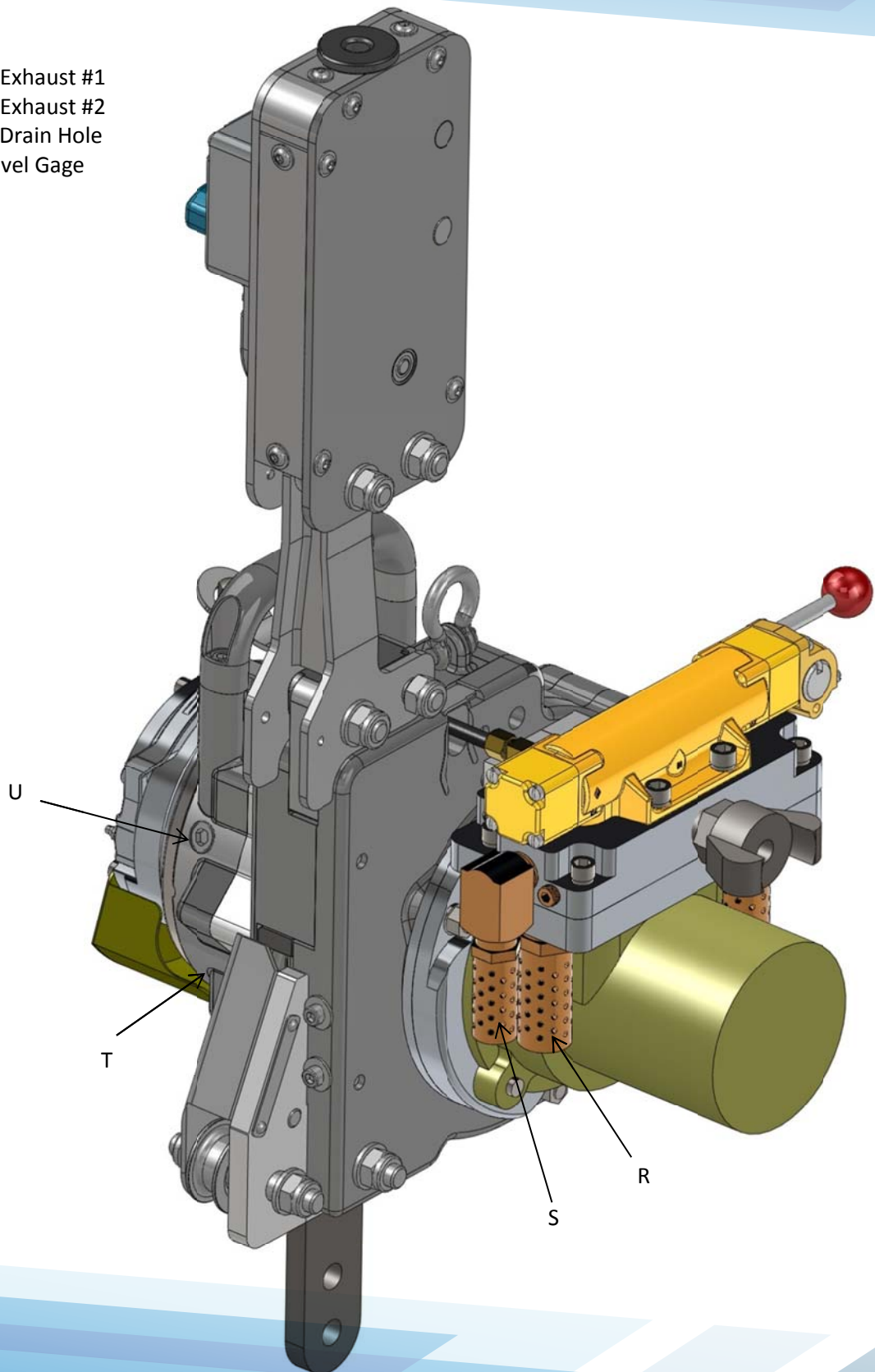
[Front Isometric View]

- A: Pneumatic Motor
- B: Gear Box
- C: "DOWN" Exhaust
- D: Manifold
- E: Valve
- F: Operation Lever Arm
- G: Shackle for Transportation
- H: Suspension Wire Rope Inlet
- I: Air Brake Assembly
- J: Brake Plug
- K: Carrying Grip
- L: Guard Plate for Brake Line
- M: Emergency Descent Lever
- N: Lever Stopper
- O: Fluid Refill Hole
- P: Air Hose Twist Coupler
- Q: Serial Number



**[Back Isometric View]**

- R: "UP" Exhaust #1
- S: "UP" Exhaust #2
- T: Fluid Drain Hole
- U: Oil Level Gage





	FUNCTION	DESCRIPTION
A	Pneumatic Motor	BISOMAC210 operates by air pressure through gear drive.
B	Gear Box	Gear Box of BISOMAC210.
C	"DOWN" Exhaust	3/4" NPT exhaust muffler to reduce noise during descent.
D	Manifold	Directs air pressure to motor to provide "UP" or "DOWN" travel and brake.
E	Valve	Directs air pressure to manifold to provide "UP" or "DOWN" travel.
F	Operation Lever Arm	Controls the vertical motion of the BISOMAC210.
G	Shackle for Transportation	Only use for transportation of the BISOMAC210. Max lifting load is 165 lbs (75 kg).
H	Suspension Wire Rope Inlet	For inserting main suspension wire rope.
I	Pneumatic Brake Assembly	Pneumatic Brake Assembly is released when the Operation Button is Operation Lever Arm is rotated. The BISOMAC210 stops when the Operation Lever Arm is released (and returns to its center position) or the air pressure is lost.
J	Brake Plug	Provides access to Gear Box axle.
K	Carrying Grip	Carrying Grip for the BISOMAC210.
L	Guard Plate for Brake Line	Protects Brake Line from damage.
M	Emergency Descent Lever	This allows the platform to be lowered at regular speed when air pressure to the BISOMAC210 is lost.
N	Lever Stopper	Prevents misoperation & malfunction of Emergency Descent Lever.
O	Fluid Refill Hole	Use when replacement of oil.
P	Air Hose Twist Coupler	Quick connection from air source to manifold.
Q	Serial Number	BISOMAC210 Serial Number.
R	"UP" Exhaust #1	3/4" NPT exhaust muffler to reduce noise during ascent.
S	"UP" Exhaust #2	1/2" NPT exhaust muffler to reduce noise during ascent.
T	Fluid Drain Hole	Use when replacing oil.
U	Oil Level Gage	Use when checking and/or replacing oil.
V	Inlet for Pendant (on Valve)*	Directs air pressure to manifold to provide "UP" or "DOWN" travel via pendant.
W	Inlet for Pendant (on Manifold)**	Provides air pressure to pendant of "UP" or "DOWN" operation.

\* : Inlets for Pendant (on Valve) is an optional feature. See Pendant Instructions.

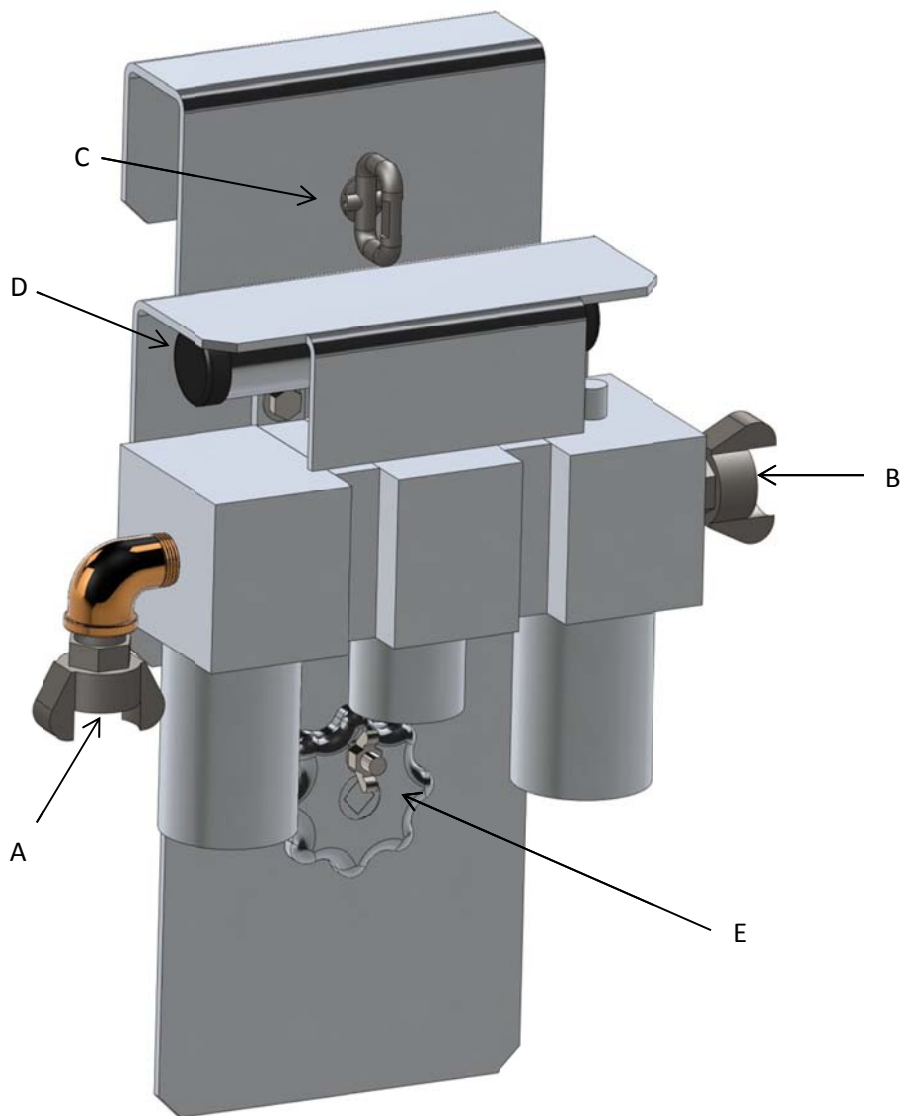
\*\* : Inlet for Pendant (on Manifold) is an optional feature. See Pendant Instructions.

## 4.2 FILTER, REGULATOR AND LUBRICATOR



	FUNCTION	DESCRIPTION
A	Filter	Filters compressed air and drains excess moisture.
B	Regulator Knob	Regulates air pressure from compressor to hoist.
C	Regulator Display	Displays air pressure going out.
D	Lubricator	Lubricates air with oil.
E	Air Pressure "IN"	Air pressure goes into "IN" port from compressor.
F	Air Pressure "OUT"	Air pressure goes out "OUT" port to hoist.

### 4.3 FILTER, REGULATOR AND LUBRICATOR ASSEMBLY



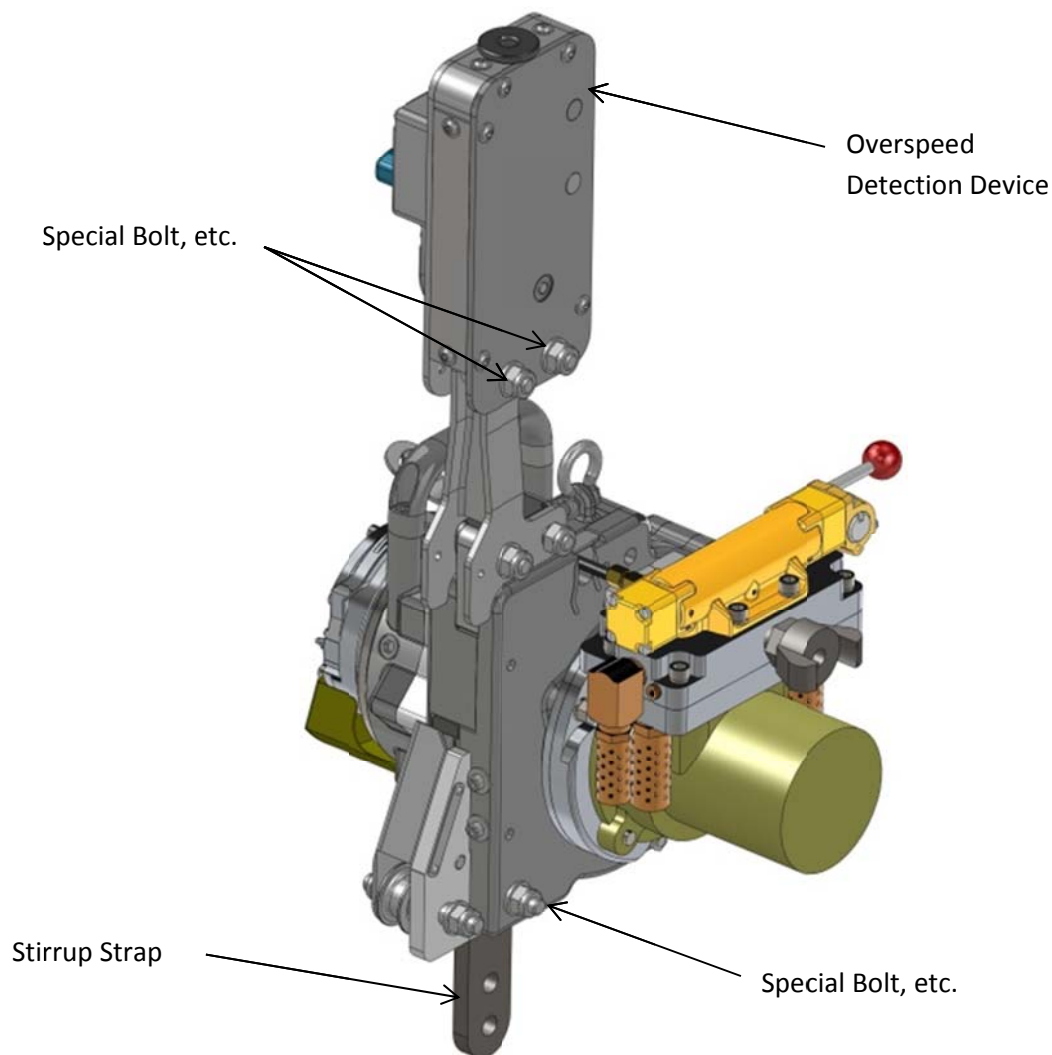
	<b>FUNCTION</b>	<b>DESCRIPTION</b>
A	Air Pressure "IN"	Air hose (from compressor) connects to Air Hose Twist Coupler.
B	Air Pressure "OUT"	Air hose connects Filter, Regulator and Lubricator Assembly to Air Hoist via Air Hose Twist Coupler.
C	Guardrail Mount with Locking Pin	Allows Filter, Regulator and Lubricator Assembly to rest on Top Guardrail and secured into position.
D	Operators Manual Tube	Location to stow Operator's Manual.
E	Emergency Ascent Wheel	Allows operator to raise platform (turn motor shaft) in the event of a loss of air pressure.



## 5. SET UP / INSTALLATION

### 5.1 HOIST ASSEMBLY (Installation of Safety Devices and Stirrup Strap to the BISOMAC210):

- Install Overspeed Detection Device to the Hoist with the provided hardware (Special Bolts, M12 Washers and M12 Nylon Nuts). Tighten the bolts using a Torque Wrench to 76 N • m (770 kgf • cm).
- Install Stirrup Strap to the Hoist with the provided hardware (Special Bolt, M12 Washer and M12 Nylon Nut). Tighten the bolts using a Torque Wrench to 76 N • m (770 kgf • cm).



## 5.2 CONNECTION OF AIR SUPPLY (Connect Filter, Regulator and Lubricator Assembly to Air Supply and BISOMAC210):

- Connect Filter, Regulator and Lubricator Assembly to the  $\frac{3}{4}$ " Air Hose via Twist Couplers (lock into position with pin or wire).
- Connect the other end of the Air Hose to the BISOMAC210 via Twist Couplers (lock into position with pin or wire).
- Verify Lubricator is filled with oil.
- Verify that all connections are secured and locked into position via locking pins.
- Slowly pressurize air lines by turning on compressor and SLOWLY opening valve.
- Dial Regulator to required pressure. Dial the center position until air pressure raises/lowers to the required pressure (may need to rotate Operation Lever Arm on hoist to reduce pressure). **WARNING: DO NOT EXCEED 110 psi.**
- Press filter base to relieve any water in holding container (periodically do this during use). If auto drain filter is being used, this is not required.

