



### **BH-3 Blockholer / Secondary Breaker**

Rugged and reliable, the BH3 is designed to eliminate ore flow blockages and release trapped reserves in draw points and beyond draw point brows without endangering mine workers. It also provides auxiliary capability for miscellaneous drilling tasks. Integrated Radio Remote Control (RRC) allows tramming, drilling and blasting operations to be conducted from a safe distance. The BH3 is specifically configured to use common components with our **MINE-MATE Series** of utility vehicles.

#### **Features**

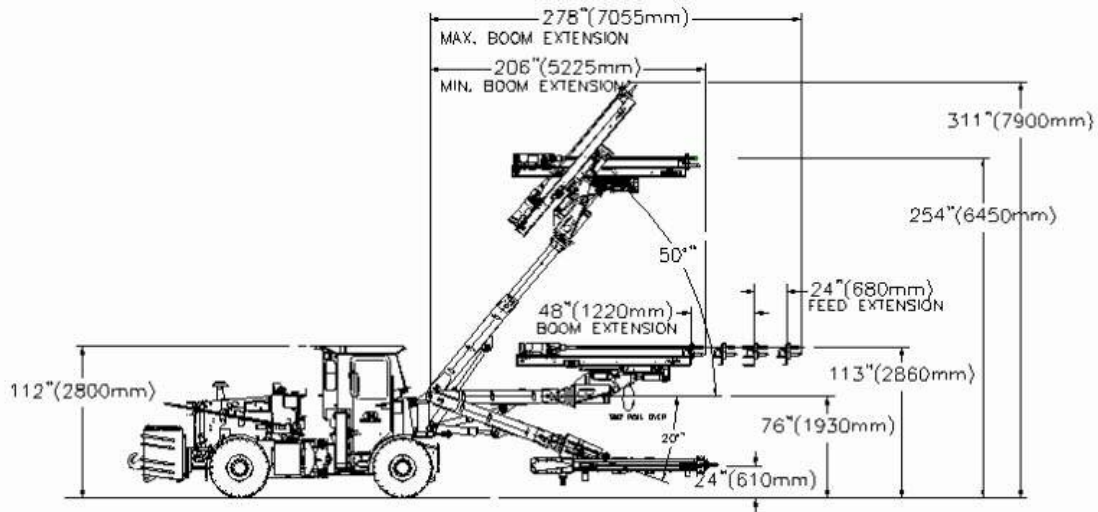
- Self-propelled, four wheel drive articulated carrier
- Heavy duty frame construction
- Heavy duty telescopic boom and drill feed lengths to suit customer needs
- Operator's compartment accessible from both sides of carrier
- High volume water tank with high pressure centrifugal water pump
- Onboard air compressor
- Direct (manual-hydraulic) drill and boom controls allow for proportional control of unit
- Boom ride control reduces wear on mechanical boom components
- High quality electrical system includes Stainless Steel electrical enclosures and main harness quick connects
- Deluxe suspension seat with seat belts for driver
- Stick steering controls
- Radio remote control (RRC) available
- Various rock drill options available
- Optional telescopic canopy or enclosed cab with A/C (not shown)
- Storage space for additional drill steel and bits

#### **Benefits**

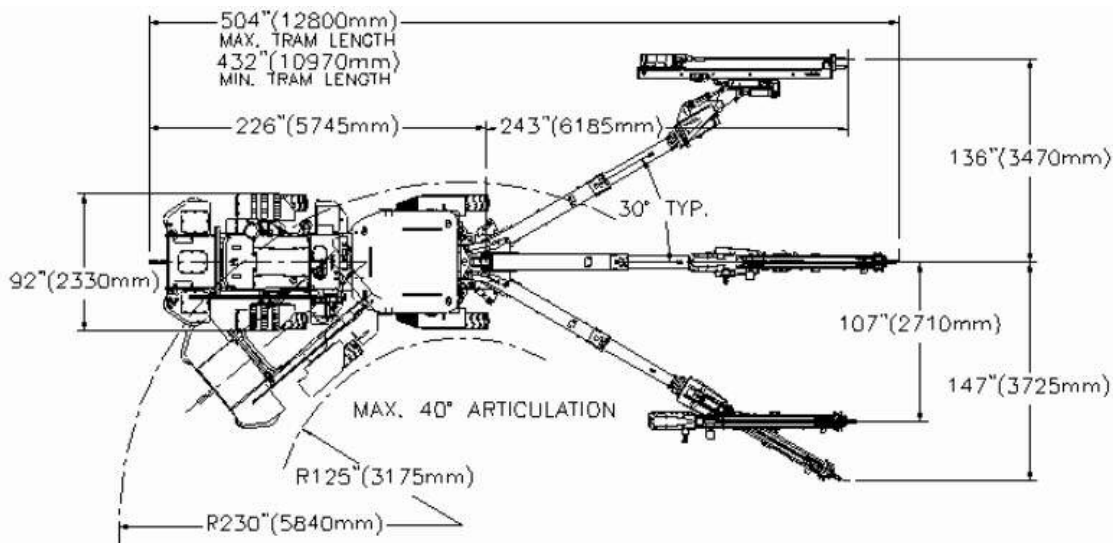
- Self contained unit, no hook up to mine water or air necessary
- Increased productivity, one man operation, no equipment diversion
- Accelerates the development cycle
- Eliminates safety hazards of hand held drilling
- Oversize is fragmented at source, without damage to draw point infrastructure, and minimizing blockages in the ore flow system downstream
- Boom configuration enables multiple boulders to be drilled from one set up, with all boulders on the sill prepared for end-of-shift blasting
- With Radio Remote Control (RRC) system, the Blockholer can drill and charge hang ups in draw points with the operator never exposed to the risks of rock fall.
- Stope area productivity improvements by elimination of non-productive boulder re-handling by LHDs.
- Draw point recovery enhanced, dilution reduced and sequencing maintained for required grade control
- Improvement in LHD maintenance costs and availability
- Provides auxiliary drilling capability for service holes, construction projects, safety bays, rock bolting, &c.

#### **Applications**

- Any underground mine where bulk mining activities generate boulders too large to move, carry, drop through grizzlies or dump into crushers
- Most effective where multiple draw points allow ore extraction to continue while block hole operations are conducted



**Typical BH3 w/Cab Side View**



**Typical BH3 w/Cab Top View**

**Weights and Dimensions**

- Width - 92" (2,330 mm)
- Length - 432" (10,970 mm) boom retracted  
- 504" (12,800 mm) boom extended
- Tramming height - 112" (2,800 mm) with cab or canopy at full height
- Inside turning radius - 125" (3,175 mm)
- Outside turning radius - 230" (5,840 mm)
- Vehicle weight:
  - 28,000 lbs (12,700 kg) (empty water tank, no cab)
  - 29,900 lbs (13,600 kg) (full water tank, no cab)

**Speed Range - Maximum Grade 20% (values are approximate)**

Mercedes / Clark / New Holland Power Train

- 1<sup>st</sup> gear on flat – 2.5 mph (4 km/h)
- 2<sup>nd</sup> gear on flat – 5 mph (8 km/h)
- 3<sup>rd</sup> gear on flat – 8.5 mph (13.5 km/h)

Caterpillar Power Train

- 1<sup>st</sup> gear on flat – 2.5 mph (4 km/h)
- 2<sup>nd</sup> gear on flat – 5 mph (8 km/h)
- 3<sup>rd</sup> gear on flat – 8.5 mph (13.5 km/h)



### **Carrier Standard Equipment**

#### **Carrier:**

- MEM-955, 4 wheel drive articulated carrier
- 40 degrees steering angle with stops
- Dual hydraulic steering cylinders
- Grouped grease fittings
- Heavy-duty bumper with towing capability
- Taper roller bearing mid-ship
- Articulation lock bar
- Wheel chock holders
- Anti-slip dimple plate on all step surfaces
- Mesabi V-core radiator with air to air intercooler

#### **Engine:**

- Mercedes model 904, 4.3L /150-175HP
- Water Cooled, 4-cylinder inline diesel engine, turbo charging and charge air-cooling
- Electronic engine management with unit pump injectors
- Tier III Certified available

#### **Diesel Tank:**

- 150 litre (39 US gallons) capacity
- Self-closing filler cap located outside of midship

#### **Transmission:**

- Clark-Hurth Powershift 32000 series transmission
- 3 speeds forward and 3 reverse
- Electric shift controls

#### **Axles:**

- Ford New Holland D65I
  - > 10° axle oscillation on engine end
  - > fixed on boom end

#### **Brake system:**

- Automatic Brake Application (ABA) with manual reset
- Independent front and rear hydraulically applied service brakes
- Spring applied hydraulic released (SAHR) emergency/park brakes

#### **Fire Suppression:**

- Ansul LTE-101 dry chemical 6 nozzle system
- Handheld ABC class fire extinguisher

#### **Tires:**

- Standard 20 ply pneumatic 12.00 X 20
- Tires lugged tread design
- Rim lock ring positioned on inside

#### **Intake & Exhaust:**

- Donaldson dry element air cleaner
- Visual filter state indicator
- HTI coating on manifold and turbo
- Standard fibreglass exhaust wrap
- Exhaust purifier and muffler
- Heat shield protection on exposed components
- Stainless Steel Emissions test port

#### **Hydraulics system:**

- 3,000 psi (200 bar) closed centre hydraulic system
- 60 cc variable piston pump
- 250 litre (66 US gallons) hydraulic reservoir
- 10 microns pressure and return filters
- Standard manual hydraulic control valves for boom and drill functions
- Standard air/oil hydraulic oil cooler
- Standard oil/water hydraulic oil cooler

#### **Electrical system:**

- 24 volt DC electrical system
- 24VOLT master disconnect with lockout
- 95 amp / 24 volt alternator
- 800 CCA batteries/500A fuse starter protection
- Re-settable circuit breakers
- 6 driving/drilling lights forward and 4 reverse
- Stainless steel electrical enclosures

#### **Air/Water Circuit:**

- Hydraulically driven water pump
- Engine mounted air compressor
- Adjustable water flushing with 'air purge' system for drilled holes

#### **Operator's Compartment:**

- Side entry away from midship
- Driver's position is forward seated facing out
- Stick steering controls
- Suspension seat with seat belt for driver



## **Optional Equipment**

### **Carrier:**

- Auto lubrication system for carrier
- Air Ride suspension seat for driver
- Wiggins Fill and Extraction Systems
- Certified ROPS & FOPS open canopy
- Certified ROPS & FOPS enclosed cabin
  - > Heating and AC systems
  - > Pressurized air and sound suppression
  - > Windshield wiper and washer systems
- Wheel Chocks

### **Engine:**

- CAT C6.6 rated 156 hp (116 kW) at 2300 rpm
- Water Cooled, 6-cylinder inline diesel engine, turbo charging and charge air-cooling
- Electronic engine management

### **Intake & Exhaust:**

- Stainless Steel exhaust wrap and blankets

### **Transmission:**

- Caterpillar power-shift transmission
- 3 speeds forward and 3 reverse
- Electric shift control

### **Axles:**

- Caterpillar Axles
  - > 10° axle oscillation on engine end
  - > Fixed mounting on non-engine side

### **Wheels and Tires:**

- Aircraft tires
- Spare Wheel/Rim Assembly

### **Fire Suppression:**

- Ansul Checkfire™ fire detection system

### **Brake system (CAT Option):**

- Automatic Brake Application (ABA) with manual reset
- Independent front and rear hydraulically applied service brakes
- Hydraulically applied emergency/park axle brakes
- Ausco sealed wet disc driveline brake, with spring applied hydraulic released (SAHR) emergency/park brake

### **Boom and Feed:**

- Length variations dependant upon application

### **Customer Supplied / Selected Drill:**

- End user can select a fleet compatible drill. Engineering and installation requirements will vary

### **Hydraulic Centralizer:**

- Allows for extension drilling. Centralizer is designed to accept both R32 and R38 couplings

### **Lighting:**

- 24VDC High Intensity Discharge(HID) lights for working end of unit

### **Boom End Outrigger:**

- Additional stability allows for improved alignment for drilling. (Commonly used with extended length booms)

### **Brake / Outrigger Interlock:**

- Interlocks park brakes when outriggers (optional) are deployed

### **Radio Remote Control (RRC):**

- A complete system that allows operation of boom functions, drilling functions and driving of unit

## **Manuals and Warranty**

### **Parts, Operators and Maintenance Manuals:**

- 3 sets of hardcopies
- "Catbase" or "Link One" electronic parts books
- 1 set laminated large size schematics in drawing tube mounted on machine

### **Warranty:**

- Maclean Engineering "MAC10" Warranty applies

\*The manufacturer reserves the right to change the specifications or design of this machine at any time without notification.