



S-1390 HT

High Torque Cutter System



MAXIMUM
HIGH TORQUE CUTTER SYSTEM

S-1390 HT

High Torque Cutter System

POWER GENERATION

Air Bleed Manifold

- Automatic Operation
- Bleeds air from system at every start
- Helps protect pump and motor from cavitation



Remote Mounted Excavator Cooler

- Gets excavator cooler from in front of radiator
- Hydraulically driven off of excavator pumps
- OEM approved
- Extremely effective in dusty environments in preventing excavator overheat.



Excavator Chip Protection

- Flexible cover protects machine swing area from debris
- Perforated metal is welded behind openings on excavator hood
- Positively pressurized auxiliary power pack cabinet
- Metal guards protect opening around exhaust



High Capacity Hydraulic Reservoir

- 55 gallon capacity
- In cab low level warning
- Sight gage with temperature bulb
- Separate baffled, inlet and outlet compartments
- Complete with 8" access cover and shutoffs
- Pressure tested to 35 PSI

125 Gallon Fuel Tank

- High capacity
- In cab low level warning
- Baffled to prevent aeration
- 8" access cover

Denison Gold Cup Hydraulics

- Denison pumps and motors feature the exclusive barrel bearing that prevents blowoff
- Response time is under 70 ms
- 138 GPM at 5000 PSI (torque limited)
- Simply the best components available



Heavy Duty Hydraulic Oil Cooler

- Reliable AKG steel oil cooler
- Hydraulically driven fan
- Thermostatically controlled cooler bypass
- Cooler is mounted in door for easy access
- Remote location-away from engine radiator



Extreme Duty Engine Mounts

- 4 X rated mounts protect engine from shock loads and side impact
- 4 x 4 x 3/8" wall tubing supports with gussets



Onboard Air System

- 14/16 CFM Air compressor
- 10 Gallon air reservoir capacity
- Full controls
- Used for quickly changing teeth or blowing out coolers/radiators



Full Length Catwalk

- 4 X 4 X 3/8" Tubing Construction
- Treadplate upper covering
- Multiple tie ins for maximum strength

Heavy Duty Platform Construction

- 4 X 8 X 1/2" Tubing
- 1/2" plate steel door hinged underside doors
- Box construction tie-in
- Multiple lateral supports for stability.



High Pressure Ball Valves

- Change out attachments without contamination of the system
- Rated at 5000 PSI
- Removable covers prevent inadvertent operation



Fall on Protection System

- Protects operator from falling debris
- 4 X 4 X 3/8" Tubing construction
- Tied directly to excavator sub-frame
- Hinged front grill
- Removable top



Lexan® Front Window With NASCAR® Style Tear-Offs

- Shatterproof Lexan front upper and lower windows
- Tear-offs consist of 3 removable films that can be discarded if they become marred.

Gates® High Pressure Hose

- Short run hoses make infield replacement easy
- High pressure/6 wire hose rated to 5000 PSI
- Nylon hose guards protect hoses from chaffing
- JIC (standard) fittings

POWER APPLICATION

S-1390 HT High Torque Cutter System



Mutiple Mount Options

Cutter head can be mounted in line with stick for smaller brush and sweeping, 90 degrees to stick to grind trees above 8" in diameter.



Heavy Duty Mount/Thumb

Used to drag fallen branches/trees back onto right of way. Strong enough to handle the largest of logs.

Power Coupling-Absorbs shock and protects motor bearings.

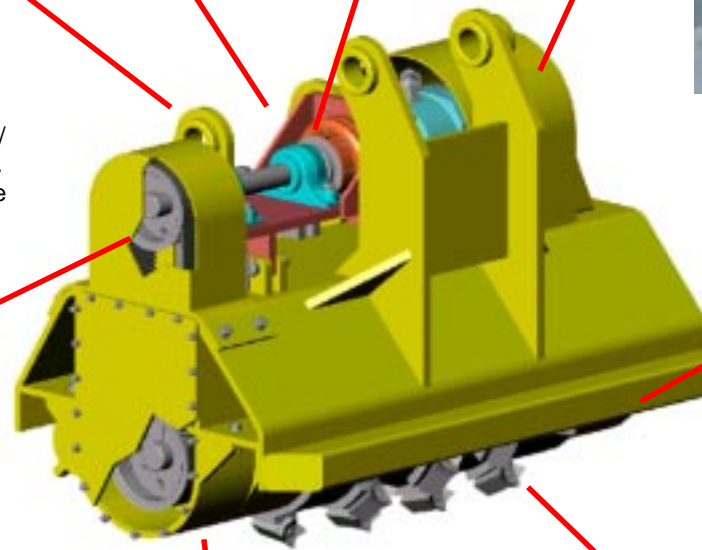


Heavy Duty Upper Drive-

Utilizes jackshaft instead of placing load on hydraulic motor bearing. Heavier and more reliable than overhung load adaptors

High Torque Motor-

Selected for maximum performance for this application. Motor/ Hydraulic protection valving included. Choose 1 or 2 motor configuration.



Heavy Duty Pushbar

4 x 4 tubing or solid 3 7/16" round stock pushbars for maneuvering trees and debris.

Gates PolyChain GT2-

Long life, heavy duty Kevlar strand belt drive. Rated to 300 HP.



Heavy Duty Lower Drive

Massive spherical pillow blocks with 3 15/16" diameter mainshaft are driven by a Gates 125mm wide PolyChain GT-2 sprocket.

Heavy Duty Lower Covers

3/4" lower covers are strong enough to support the weight of the excavator



Extreme Efficiency Teeth

Sharp, high strength teeth slice through the toughest wood. 4 cutting tips means that you can rotate the teeth up to 4 times. Low cost-\$18.46 each.

SPECIFICATIONS/PERFORMANCE

ENGINE

Model.....CAT C10 Diesel
 Type.....4 cycle, water-cooled,direct injection
 Aspiration.....Turbocharged and air aftercooled
 Number of cylinders.....6
 Bore.....4.92" (125 mm)
 Stroke.....5.51" (165 mm)
 Displacement.....629 in/cu (10.3L)
 Rated Power..... **.390 HP** (291 kw) @ 2100 RPM
 Peak Torque..1250 lbs/ft (1947 Nm) @ 1500 RPM

HYDRAULIC SYSTEM

Type.....Closed loop hydrostatic
 Pump.....Variable capatcity, piston pump
 Maximum Flow.....137 GPM (512 LPM)
 Hydraulic Motor.....High Torque Denison Mod.
 Compensator (Relief) Setting..5000 PSI (345 bar)

FLUID CAPACITIES

Auxiliary Fuel.....125 Gal. (485 L)
 Auxiliary Hydraulic (refill).....60 Gal. (233 L)
 Auxiliary Hydraulic (total).....125 Gal. (485L)

CUTTER DRUM

Type.....Rotating Drum/Fixed Tooth
 No. Of Teeth.....32
 Teeth Type.....Quadco Beaver Teeth
 Width of Cut.....36"
 Drum RPM.....1780 RPM
 Mainshaft Diameter.....3.94"

DRIVES

Type.....Axial Piston Motor
 Belt Adjustment.....Jackshaft Design
 Motor Output Torque.....19,862 in/lbs. (max.)
 Power Coupling.....Rexnord Omega
 Belt Drive.....Gates PolyChain GT-2

Comparative Performance Data

	SC-2	SC-Lite 300 Plus	S-1390 HT®
Maximum Cutter Speed (RPM)	1330	1773	1773
Time to Accelerate (seconds)	5.83	2.86	1.76
Total Rotating Weight (lbs.)	1782	1649.5	1649.5
Total Kinetic Energy (ft. lbs.)	428,198	320,313	320,313
Motor Torque (peak value/in. lbs.)	8666	11,029	20,798
Force Applied to Cutter Tip (pounds)	1,179	1,125	2,123

Definitions...

Time to Accelerate is computed time from a dead stop to full speed, no load.

Total Rotating Weight includes drum, teeth, sprockets, bushings, tooth holders, weldments, drive shaft, power coupling and internal rotating group of hydraulic motor and bearing elements. This is used in computations of acceleration time and kinetic energy.

Total Kinetic Energy is the energy or inertia of the rotating mass. This number when combined with torque, provides an insight into how fast the cutter drum will decelerate if during grinding.

Motor Torque is the true output of a hydraulic system. It is the twisting force applied to the cutter head drive pulley and directly affects acceleration time.

Force Applied to Cutter Tip is truly where the "rubber meets the road". This is a measure of the force applied to the cutter tip by the hydraulics only (not taking into account inertia). This is the true hydraulic force applied to the cutting edge of a tooth at maximum pressure. This takes into account losses or gains from drive component ratios (different sprockets and resultant force) along with distance from center of rotation of the teeth themselves. This has also been computed taking into effect hydraulic and mechanical efficiency of both the pump and motor.

IMPORTANT: Shinn Systems reserves the right to change these specifications without notice and without incurring any obligation pertaining to such change. Shinn Systems does not warrant the safety or reliability of components from other manufactures.

SHINN SYSTEMS, INC CONTACT INFORMATION

NORTH AMERICA
 904 AIRPORT ROAD
 SALISBURY
 NORTH CAROLINA 28147
 1-877-942-4477
 (704) 630-0704
 (704) 630-0904 (FAX)

AUSTRALIA
 SUITE 1 LEVEL 1
 EVANDALE PLACE
 142 BUNDALL ROAD
 BUNDALL
 QUEENSLAND
 4217

NOTE: All specifications are stated in accordance with SAE Standards or Recommended practices, where applicable.

Visit Shinn Systems on the Web at
<http://www.shinncutter.com>

Printed in U.S.A.

©2003 SHINN SYSTEMS, INC.
 All Rights Reserved.

Form No. SS 1120031S-1390-01
 (Original)