



Super 200

Care and Use Instructions



Serial Number _____

Date Manufactured _____

TEEMARK MANUFACTURING WARRANTY – TERMS OF SALE

Only the following conditions apply and shall be binding on the Seller regardless of any conditions contained in your inquiry or order. If the conditions stated herein are in any way unacceptable to you, please notify us at once; otherwise the following conditions will become the only conditions applicable to this transaction regardless of any conflicting terms or conditions contained in your inquiry or order.

1. **CONTRACT.** No order or quotation is binding on Seller and no contract is formed until Seller's formal acknowledgement of the order on Seller's own form is sent to Buyer. Any special terms or conditions noted on the face of Seller's quotation on which this order is based is incorporated herein by reference and made a part hereof as though specifically set forth herein.
2. **DELIVERY.** Without prejudice to any of Buyer's other rights hereunder, title and risk of loss shall fall to buyer on delivery of goods hereunder by Seller to carrier regardless of who bears the cost of freight. Seller shall not be liable for any delays in or failures of delivery due to acts of God or public authority, labor disturbances, accidents, fires, floods, extreme weather conditions, failure of and delays by carriers, shortages of materials, delays of a supplier due to causes beyond its control, or any other causes beyond the control of the Seller. Seller shall notify Buyer of any such delays as soon as it becomes apparent. In no event shall Seller be liable for consequential or special damage arising out of a delay in or failure of delivery.
3. **LIMITED WARRANTIES.** All goods sold hereunder are warranted to be free from defects in material and workmanship and/or to conform to applicable specifications, drawings, blueprints and/or samples. Seller's sole obligation under these warranties shall be to issue credit, repair or replace any item or part thereof which is proved to be other than as warranted. Seller shall have the sole right to determine whether such parts shall be repaired or replaced or whether credit shall be issued. No allowances shall be made for any labor charges of Buyer for replacement of parts, adjustments or repairs, or any other work unless advance, written authorization for such charges is given by Seller. In no event shall Seller be liable for collateral, consequential or contingent damages. If goods are claimed to be other than as warranted, Seller, upon notice promptly given, will either examine the goods at the Buyer's site or issue shipping instructions for return to Seller (transportation costs prepaid by Buyer), and if any goods are proved to be other than warranted, transportation costs (cheapest way) to and from Seller's plant will be borne by Seller and reimbursement or credit will be made for amounts so expended by Buyer. Every such claim for breach of the warranties herein contained shall be deemed to be Waived by the Buyer unless made in writing within 90 DAYS from the date of shipment of the goods to which such claims relates. These warranties shall not extend to any goods or parts thereof which have been subjected to misuse or neglect, damaged by accident, rendered defective by reason of improper installation or used for other than the express purpose for which it was designed and built, or by the performance of repairs or alterations outside of Seller's plant, except when performed under seller's specific authority. These warranties shall not apply to any goods or parts thereof furnished by Buyer or acquired from others at Buyer's request and/or to Buyer's specifications. In no event shall the Seller be liable for contingent or consequential damages. **This warranty is in lieu of all other warranties.**
4. **CHANGES IN SPECIFICATIONS OR DESIGN.** Should Buyer request that changes be made in the specifications or design relating to any goods, delivery dates and schedules shall be revised accordingly, if necessary, and an equitable adjustment, upward or downward, be made in price so far as warranted.
5. **TERMINATION, REDUCTION IN QUANTITY, RESCHEDULING DELIVERY.** In the event Buyer desires to terminate any part or all of the work to be done hereunder, reduce the quantity of goods ordered, or reschedule the delivery of any goods, fair compensation shall be made to the Seller. Seller shall recover without duplication the contract price for articles which have been completed, the actual costs incurred by Seller which are properly allocable or apportionable under recognized commercial accounting practices to terminated work (including cost of discharging liabilities) plus a reasonable profit, the increased cost incurred by Seller by reason of a revision in the delivery schedule.
6. **BUYER'S PROPERTY.** Any patterns, equipment or materials furnished by Buyer shall be used only in the production of goods ordered by Buyer and not otherwise, unless by Buyer's written consent. Seller agrees to exercise reasonable care with respect to such property while in its possession and control, but shall not be responsible for loss or damage occurring without its fault or negligence or for ordinary wear and tear. When, for two (2) consecutive years, no orders are received from the Buyer for a particular product, any TeeMark Manufacturing, Inc. – 1132 Air Park Drive – Aitkin, MN 56431 – 1.800.428.9900

- tooling or equipment, whether owned by Buyer or Seller, required for producing such product, as well as any inventory of such product, may be destroyed by seller without notice to buyer or liability to Seller.
7. **PATENT INFRINGEMENT.** Seller shall defend and save harmless the Buyer from any claim that any product or article sold to the Buyer hereunder in and of itself infringes any United States letters patent by reason of its sale provided Seller is notified in writing within ten (10) days after such claim is made against the buyer and provided further that seller is permitted to defend the same in Buyer's name if action brought. If the product or articles sold to the buyer hereunder is manufactured by the Seller according to a design or specification furnished by the Buyer, the Buyer will defend and save harmless the Seller from any claim of infringement of any letters patent.
 8. **PATENT AND DATA RIGHTS.** Seller will comply with all applicable federal, state and local laws, provided however, that the Seller will not be bound by Armed Services Procurement Regulation 9-202, Rights in Data: Defense procurement Circular #24, or any other regulation requiring the Seller to provide Technical data, either limited or unlimited, to any representative of the federal government or agency thereof, unless affirmatively and specifically agreed to in writing by the Seller.
 9. **PROPRIETARY DESIGN.** Unless the design for the goods shall have been furnished by the Buyer to the Seller and used by the Seller in manufacturing the goods, the design of the products supplied to the Buyer are proprietary. The Buyer agrees not to reproduce these products or their design for his own use or for resale, except where necessary for maintenance of said goods.
 10. **BUYER SPECIFIED SOURCES.** Where Buyer supplies parts and/or materials to be used in connection with the work to be performed and materials to be furnished by the Seller, subcontract work of any kind is performed for Seller by a source specified or selected by Buyer, Buyer assumes, and Seller is correspondingly relieved from all responsibility where the merchandise supplied by Seller is other than as warranted and where the reason therefore is due to the work performed by the source so specified or selected by Buyer or parts supplied by Buyer. Buyer further agrees that in such instances Buyer will defend, at no cost to Seller, every suit which shall be brought against Seller by reason of the defects in such parts supplied by Buyer or operations so subcontracted at Buyer's request.
 11. **TAXES.** Sales and use taxes, payable by Buyer, which are presently or may hereafter be imposed by any taxing authority, are not included in the sales price; any direct or excise tax, payable by Seller, which may hereafter be imposed by any taxing authority, upon the manufacture, sale or delivery of products covered by this order, or any increase in rate of any such tax now in force, shall be added to the sale price. If not collected at time of payment of sale price, Buyer will hold Seller harmless.
 12. **APPLICABLE LAW.** This contract shall be governed by the law of the State of Minnesota. The invalidity of any one clause or portion of this contract shall have no effect on the validity of any other section or portion thereof. Failure at any time of Seller to enforce any provision of this contract, or to exercise an option hereunder, or to require performance by Buyer of an provision hereof, shall in no way be construed as a waiver nor in any way affect the right of Seller to thereafter enforce each and every provision. A waiver by Seller of a term or condition hereof shall not be deemed a waiver of any other term or condition hereof or as a future waiver thereof. Sites of the contract shall be deemed Seller's corporate offices.
 13. **PREVAILING TERMS.** Seller's standard terms of sale shall supplement and compliment Buyer's terms and conditions of sale, and both shall form the contract. However, if there is a conflict on content, interpretation, construction, or on any other points, between Buyer's and Seller's terms and conditions of sale, Seller hereby expressly rejects such conflicting terms and/or conditions of Buyer, and Seller's terms and conditions shall prevail and Buyer's acceptance of Seller's terms and conditions as set forth herein.

WARNING

EXPLOSION HAZARD

All TeeMark explosions proof can and drum crushers are manufactured in accordance with the National Electrical Code for **Class 1, Group D** hazardous locations.

It is the responsibility of the end user to properly install and operate the crusher in compliance with all local and national electrical codes for hazardous locations.

THIS MEANS

All sources of ignition must be a safe distance away from the crusher while it is being operated. (As determined by your insurance underwriter)

Sources of ignition include:

1. All forklift trucks. Propane, gas and electric powered.
2. All air compressors
3. Any motor control equipment not rated for hazardous locations (class 1, group D)
4. Any electrical equipment such as radios, tape players, ect.

Congratulations on choosing a TeeMark Super 200 Aerosol Can Crusher.

The Super 200 is designed to process all types of aerosol cans. The liquid contents of the cans are collected in a 5 gallon pail directly under the machine. The propellants and VOC's are collected and vented by means of a centrifugal blower system.

Your crusher has been thoroughly tested before leaving the factory.

SAFETY FEATURES

The Super 200 is equipped with a safety interlock system that is linked to the Crushing Chamber door. The interlock system prevents operator injury by stopping all functions of the machine in the event that the crushing chamber door is opened during the crushing process.

AIR HANDLING SYSTEM FEATURES

The Super 200 is designed to vent VOC's and propellant from the crushing chamber. A 2x12x24 pleated filter housed within the filtration cabinet filters particulates from the air stream. The Super 200 will provide 200 CFM of particulate free air to be handled in accordance with local regulations.

ELECTRICAL CONNECTION

The explosion proof motors, motor controls, and connections on your crusher are UL listed and CSA certified for Class 1, Group D, Hazardous locations. It is up to the purchaser to have the final connections made by a licensed electrical contractor in compliance with the appropriate local and national electrical codes.

A ¾ hp, 115/230 volt, 60 hertz, 10.6/5.3 FLA (full load amps) Single Phase motor powers the Crusher.

A ½ hp, 115/230 volt, 60 hertz, 7.4/3.7 FLA thermally protected Single Phase motor powers the Ventilation System.

(the motors stated above are the standards and you may have a different hp, volts, hertz, or phase)

CARBON FILTER PACKAGE

The optional Carbon Filtration Package consists of a 55 gallon carbon filter drum and is connected to the machine blower by a 4" flexible duct.

The air coming off the Carbon Filter Drum must be vented either to an exhaust system or vented out of the building.

SUPER 200 ASSEMBLY INSTRUCTIONS

Tools required are two (2) 9/16 inch wrenches, two (2) ½ inch wrenches, small clevis, small chain, and a fork lift or overhead crane. *The machine weighs approximately 900 pounds.*

You will need approximately 9-1/2 feet of overhead clearance (more if using a forklift) to place the machine on the stand.

Dismantle crate and remove all the bolts fastening the Machine to the crate.

The machine is equipped with a lifting eye located at the top of the hydraulic cylinder. Attach the crane or forklift to the lift eye using a clevis and chain. Lift the machine and attach the 4 leg extensions with the 3/8-16 UNC x 1-1/4” bolts provided. Position at the desired location leaving ample room around the machine to access the filter cabinet and allow for the machine maintenance. There are leveling bolts at the bottom of stand legs, if necessary the machine can be leveled. It is recommended that the stand be anchored to the floor using the holes provided in the pads on the legs. These anchor bolts should be 3/8” by 4-1/2” long.

If the machine is equipped with the optional carbon filter drum, this can be placed where it is convenient. Attach one end of the 4” duct to the blower exhaust and the other end to the drum port labeled intake.

Be sure that there is a source of makeup air available to the room or building where the crusher is to be located.

Once fully assembled an Electrician will need to complete the electrical hookup in accordance with local codes. See the following pages for wiring diagram.

HYDRAULIC FLUID

The hydraulic reservoir must be kept full to a level that is visible in the temperature/sight gauge throughout the complete ram cycle. Use a premium grade antiwear hydraulic oil, **150 viscosity grade 32** (e.g. Mobile #DTE24 or equal). This is the same antiwear hydraulic fluid that is typically used in farm tractors and dump trucks. It should be available at most auto or farm supply stores. Total fluid capacity is approximately 6 US gallons.

OIL FILTER

A low pressure, high performance 10 micron (absolute) oil filter is standard on all TeeMark Crushers. It should be changed after every 500 hours of operation.

OIL FILTER REPLACEMENT

part # P02-0081

VALVE SETTINGS

All hydraulic valve components have been preset at the factory.

**DO NOT RE-ADJUST ANY VALVE SETTINGS WITHOUT FIRST CONSULTING
TEEMARK MANUFACTURING, INC.**

OPERATING INSTRUCTIONS

START UP PROCEDURE

Make certain that all necessary electrical connections are made before proceeding.

INITIAL WARMUP

IT IS RECOMMENDED THAT ALL CRUSHER RUN IDLE FOR 5-10 MINUTES TO ALLOW THE HYDRAULIC OIL TO REACH OPERATING TEMPURATURE. THIS IS ESPECIALLY IMPORTANT WHEN AMBIENT TEMPERATURE IS BELOW 65 F

1. Position an empty 5-gallon pail under the pail top sealing flange
2. Use a 55-gallon drum or some type of receiver, to collect the crushed cans.
3. Open the crusher door.
4. Start the blower by pulling out on the pushbutton labeled "BLOWER"
5. DO NOT OPERATE THE CRUSHER UNLESS THE BLOWER IS ON
6. Start crusher motor by pulling out the pushbutton labeled "CRUSHER"
7. Place a can into the crushing chamber in an upright position, centered over the piercer opening on the crusher platen.
8. Close the crusher door and pull both leavers on the hydraulic control valve.
9. When the can is fully crushed and the hydraulic system has reached full crushing pressure, the first or right hand lever will disengage and the hydraulic cylinder will retract.
10. When the cycle is complete and the cylinder is fully retracted, the second or left hand lever will disengage.
11. The crusher door can now be opened and the crushed can removed. A new can may be placed on the platen and the crushing cycle repeated.

HAZARDOUS VAPOR WARNING

To prevent a buildup of hazardous vapor it is very important that the blower by on and running whenever the crusher is running or there is liquid content present.

RECOMMENDED REGULAR MAINTENANCE

KEEP A CLEAN MACHINE! Those who clean the crusher after each shift and prevent a buildup of dried paint, have better running machines than those who neglect this important task.

One method of cleaning involves saving the cans of thinner and other solvents until the end of the shift. This will clean the piercer area and the ejector bars. To remove a buildup of dried paint, a flat blade scraper works well as does a small pneumatic chisel.

Some crusher operators will apply a coating of grease to the inside of the crushing compartment this works well to prevent the buildup of paint.

RECOMMENDED PERIODIC MAINTENANCE

1. Change the hydraulic oil filter element every 500 hours; more often if your system is in an extremely dirty atmosphere.
2. Change the hydraulic oil completely every 5000 hours or 5 years of operation, whichever comes first.
3. Change air particulate filter when the filter gets dirty
4. It is recommended that the piercer be sharpened periodically to prevent undue pressure buildup inside the cans.
5. Remember your machine is only as good as your maintenance.

BLOWER USE AND MAINTENANCE

All fans and blowers have rotating parts and pinch points. Severe personal injury can result if operated without guard.

Stay away from rotating equipment unless it is disconnected from its power source and all rotating parts have stopped moving.

No guarantee of any level of spark resistance is implied by spark resistant construction.

It has been demonstrated that aluminum impellers rubbing on rusty steel may cause high intensity sparks.

Air stream material and debris or other system factors may also cause spark.

NOTE:

If wheel set screws are loosened and/or wheel is removed from shaft, set screws must be replaced.

Set screws cannot be used more than once. Use knurled, cup point set screws with a locking patch.

MINIMUM REQUIRED SETSCREW TORQUE=65 INCH/LBS

Blower Fan Malfunctions and Causes

VIBRATION AND NOISE

Misalignment of fan wheel
Foreign material in fan causing unbalance
Worn bearings
Damaged wheel or motor
Broken or loose bolts and set screws
Bent shaft
Worn coupling
Fan wheel or drive unbalanced
Loose dampers
Speed too high or fan rotating in wrong direction
Vibration transmitted to fan from some other source.

CAPACITY OR PRESSURE BELOW RATING

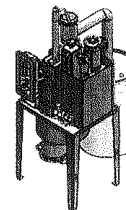
Dirt in bearings
Incorrect direction of wheel rotation
Excessive belt tension
Speed too slow
Dampers not properly adjusted

OVERLOAD ON MOTOR

Poor fan inlet or outlet conditions (elbows, restrictions)
Speed too high
Air leaks in system
Damaged wheel
Total resistance of system higher than anticipated
Wrong direction of wheel rotation
Wheel mounted backwards on shaft
Bearings improperly lubricated
Motor improperly wired
Defective motor
Motor must be tested by motor manufacturer

TROUBLE SHOOTING

1. Is your blower on?
2. Is the motor rotating in the correct direction?
3. Is the pump turning? (look at the love joy between motor and pump)
4. Is the door interlock engaged?
5. Are your levers retracting all the way?



| ITEM # | QTY. | PART # | DESCRIPTION |
|--------|------|----------|----------------------------|
| 1 | 1 | P02-0077 | HYDRAULIC BREATHER CAP |
| 2 | 1 | P02-0133 | LEVEL/TEMPERATURE GAUGE |
| 3 | 1 | P02-0081 | HYDRAULIC OIL FILTER |
| 4 | 1 | P02-0082 | HYDRAULIC PUMP |
| 5 | 1 | P04-0024 | COUPLING HUB |
| 6 | 1 | P04-0028 | COUPLING SPIDER INSERT |
| 7 | 1 | P04-0025 | COUPLING HUB |
| 8 | 1 | P02-0135 | MOTOR |
| 9 | 1 | P02-0348 | PUMP MOTOR ADAPTER |
| 10 | 1 | P02-0085 | HYDRAULIC INTERLOCK VALVE |
| 11 | 1 | T9001325 | ACTUATOR ARM |
| 12 | 1 | P02-0080 | HYDRAULIC AUTO-CYCLE VALVE |
| 13 | 1 | P04-0078 | PARTICLE FILTER |
| 14 | 1 | P02-0134 | HYDRAULIC RAM |
| 15 | 1 | T9001199 | CRUSHER HEAD |
| 16 | 1 | P07-0121 | CRUSHER HEAD PIN |
| 17 | 1 | T9001198 | PIERCER |
| 18 | 1 | T9001197 | PIERCER CROSSBAR |
| 19 | 2 | | SPRING RETAINING BOLT |
| 20 | 2 | P04-0038 | PIERCER SPRING |
| 21 | 4 | T9001195 | PIERCER RETRACT PIN |
| 22 | 1 | T9001193 | CRUSHER PLATEN |
| 23 | 4 | P04-0037 | CRUSHER PLATEN SPRING |
| 24 | 1 | T9001187 | COMPLETE PIERCER ASSEMBLY |
| 25 | 1 | P04-0079 | DUCT HOSE |
| 26 | 1 | P02-0062 | MOTOR W/ BLOWER |
| 27 | 1 | T9001185 | CYCLONE |
| 28 | 2 | P07-0315 | CLAMP |
| 29 | 1 | P04-0077 | DUCT HOSE |
| 30 | 1 | T9001203 | PAIL FLANGE |
| 31 | 1 | P04-0076 | CARBON FILTER |

UNLESS OTHERWISE SPECIFIED: DRN BCA SUPER 200 CRUSHER

DIMENSIONS ARE IN INCHES

DATE 3/24/2014

TOLERANCES:

FRACTIONAL: 1/16

ONE PLACE DECIMAL ±.1

TWO PLACE DECIMAL ±.02

THREE PLACE DECIMAL ±.005

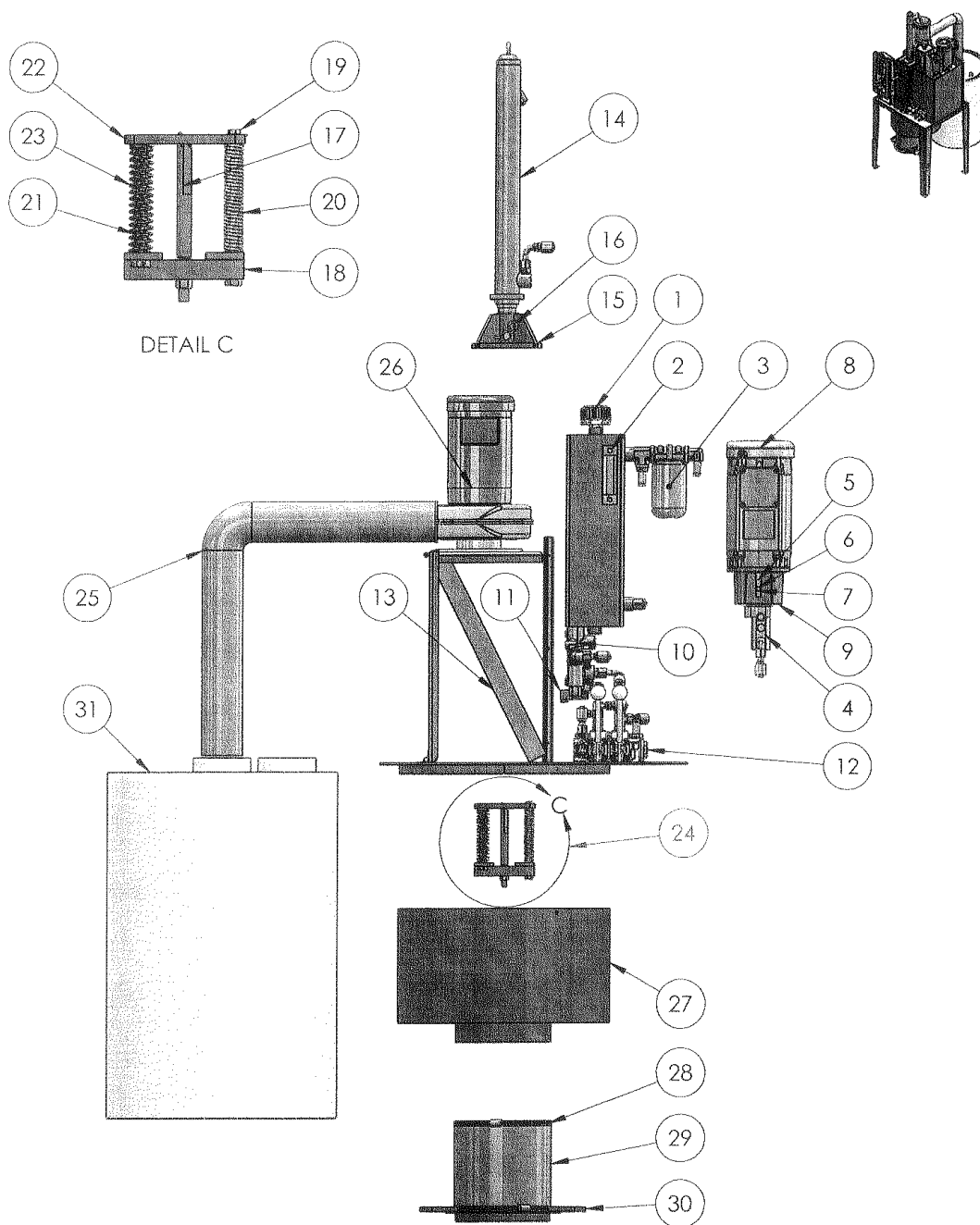
ANGULAR: ± 1 DEGREE

TeeMark Manufacturing

MODEL NO:

AITKIN, MN 56431 218-927-2200

PART NO. T9001180



b.

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL: 1/16
ONE PLACE DECIMAL $\pm .1$
TWO PLACE DECIMAL $\pm .02$
THREE PLACE DECIMAL $\pm .005$
ANGULAR: ± 1 DEGREE

DRN

BCA

SUPER 200 CRUSHER

DATE

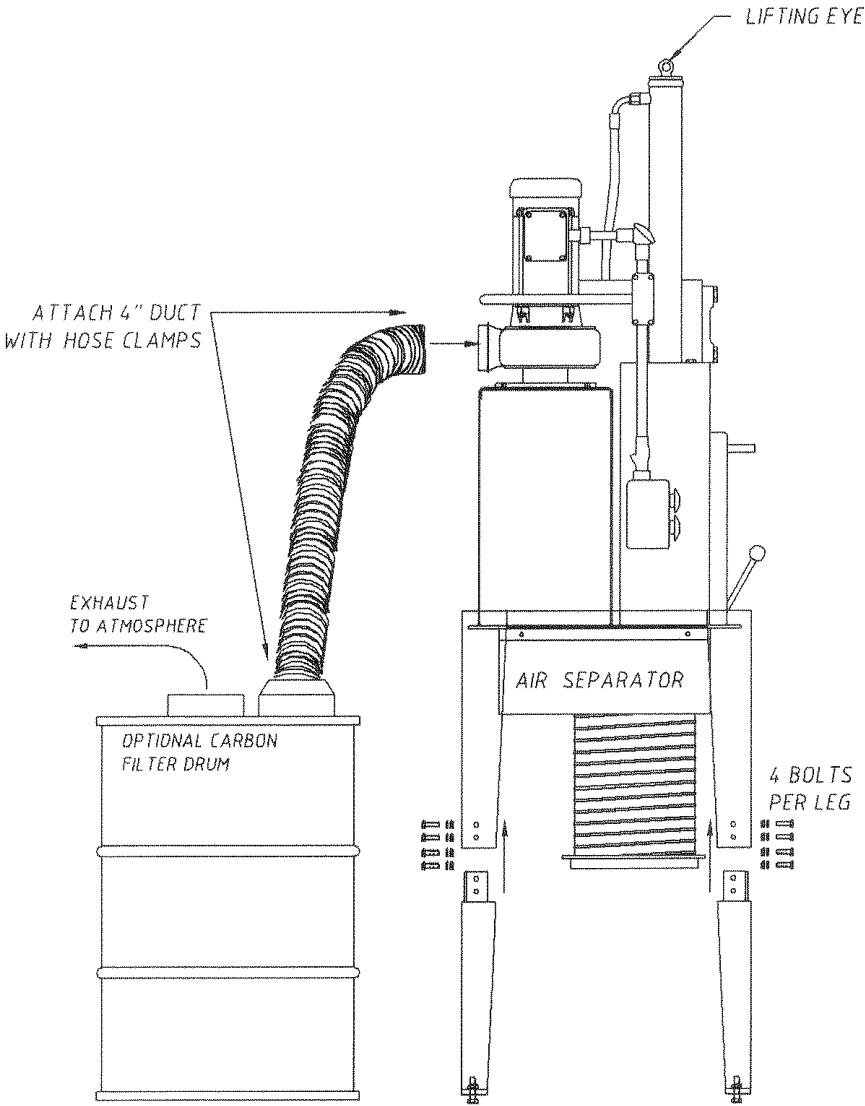
3/24/2014

TeeMark Manufacturing
AITKIN, MN 56431 218-927-2200

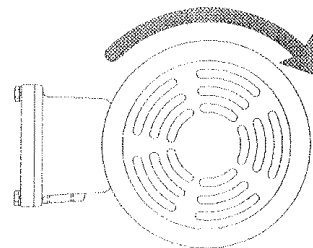
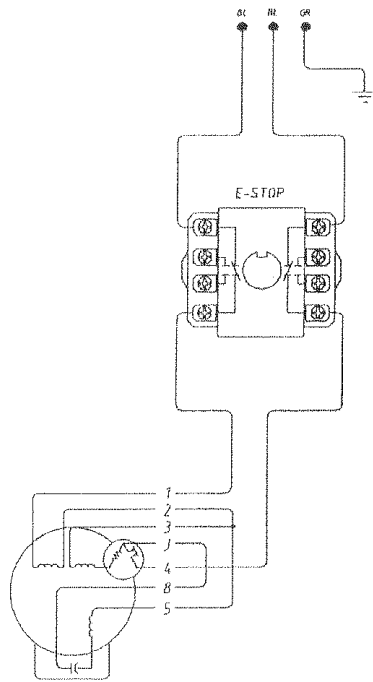
MODEL NO:

PART NO. T9001180

SUPER 200 ASSEMBLY

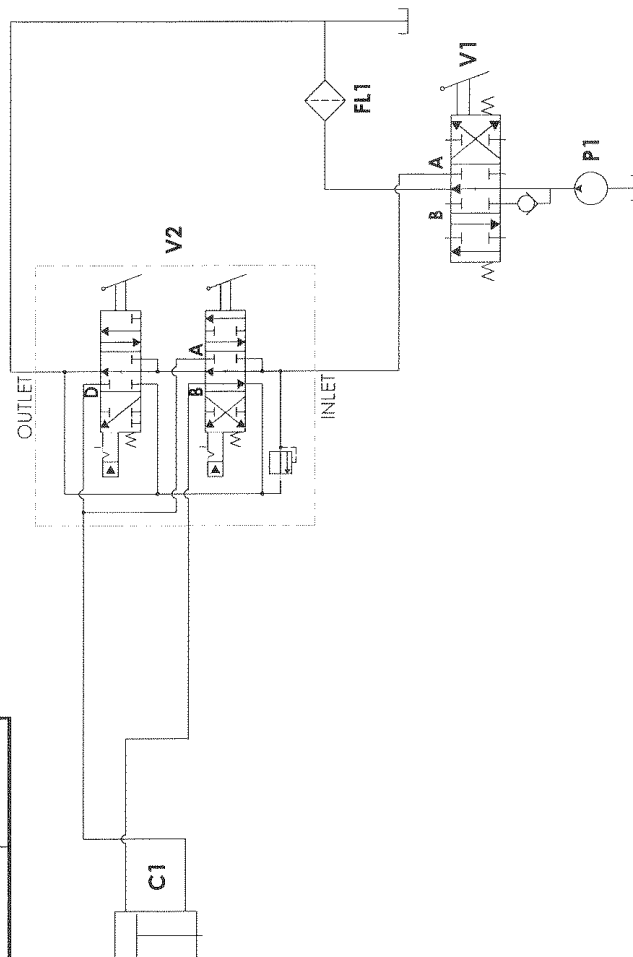


ELECTRICAL HOOKUP
220 VAC, SINGLE PHASE



CRUSHER MOTOR ROTATION
CLOCKWISE
VIEWED FROM THE FAN END OF
THE MOTOR

| SYMBOL | DESCRIPTION | PART NUMBER |
|--------|-----------------------|-------------|
| P1 | PUMP, HYDRAULIC | P02-0086 |
| V1 | VALVE, DOOR INTERLOCK | P02-0085 |
| V2 | VALVE, AUTOCYCLE | P02-0080 |
| C1 | CYLINDER, CRUSHING | P02-0250 |
| FL1 | FILTER | P02-0081 |



UNLESS OTHERWISE SPECIFIED:
 DIMENSIONS ARE IN INCHES
 DECIMALS: 1/16
 FRACTIONS: 1/16
 ONE PLACE DECIMAL: ±.1
 TWO PLACE DECIMAL: ±.02
 THREE PLACE DECIMAL: ±.005
 ANGULAR: ±.1 DEGREE

DRN: BCA
 DATE: 9/10/2015
 TC-37

Teemark Manufacturing
 AITKIN, MN 56431 218-927-2200
 MODEL NO.:
 PART NO. TH1000016

ADJUSTING THE MAIN CONTROL VALVE DETENT PRESSURE SETTINGS

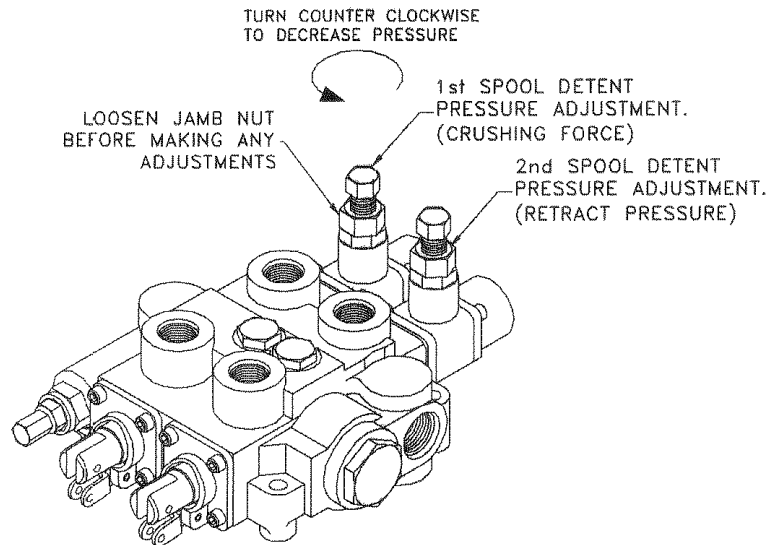
The Main Hydraulic Control Valve detent settings are preset at the factory. Certain field conditions and machine usage may require detent adjustments.

Refer to valve manufacturers trouble shooting guide included in this manual for possible conditions that would call for detent readjustment..

DETENT CONDITIONS THAT AFFECT CRUSHER PERFORMANCE

Note: Make adjustments in 1/8 turn increments

| | |
|---|---|
| Crushing Platen will not retract and motor <u>does not</u> bog down. | Both valve spools are tripping simultaneously. Increase detent pressure on 2nd valve spool. |
| Crushing Platen will not retract and motor <u>does</u> bog down. | Decrease detent pressure on 1st valve spool. |
| Incomplete crushing of can or drum. | Increase detent pressure on 1st valve spool. |
| Motor bogs down when cylinder is fully retracted. | Decrease detent pressure on 2nd valve spool. |



GENERAL SAFETY PRECAUTIONS FOR HYDRAULIC VALVES

1) ALL HYDRAULIC VALVES MUST BE PROPERLY INSTALLED INTO THE HYDRAULIC SYSTEM TO PREVENT PERSONAL INJURY AND/OR PROPERTY DAMAGE. FURTHER, THE IMPROPER SERVICING OF A VALVE MAY RESULT IN PERSONAL INJURY AND/OR PROPERTY DAMAGE. PLEASE READ AND UNDERSTAND ALL CATALOG AND SERVICE INFORMATION BEFORE STARTING. AS WITH ALL MECHANICAL WORK THE PROPER TOOLS, KNOWLEDGE, AND SAFETY EQUIPMENT ARE REQUIRED. ALWAYS WEAR SAFETY GLASSES.

2) MAKE SURE ALL PRESSURE HAS BEEN RELIEVED IN THE HYDRAULIC LINES BEFORE INSTALLING OR SERVICING A HYDRAULIC VALVE.



WARNING: ESCAPING HYDRAULIC FLUID UNDER PRESSURE CAN HAVE SUFFICIENT FORCE TO PENETRATE SKIN, CAUSING SERIOUS PERSONAL INJURY. DO NOT USE YOUR HAND TO CHECK FOR HYDRAULIC LEAKS.

3) BEFORE INSTALLING OR SERVICING A HYDRAULIC COMPONENT MAKE SURE ALL WEIGHT HAS BEEN REMOVED FROM THE CYLINDERS OR MOTORS BEFORE DISCONNECTING HYDRAULIC LINES.

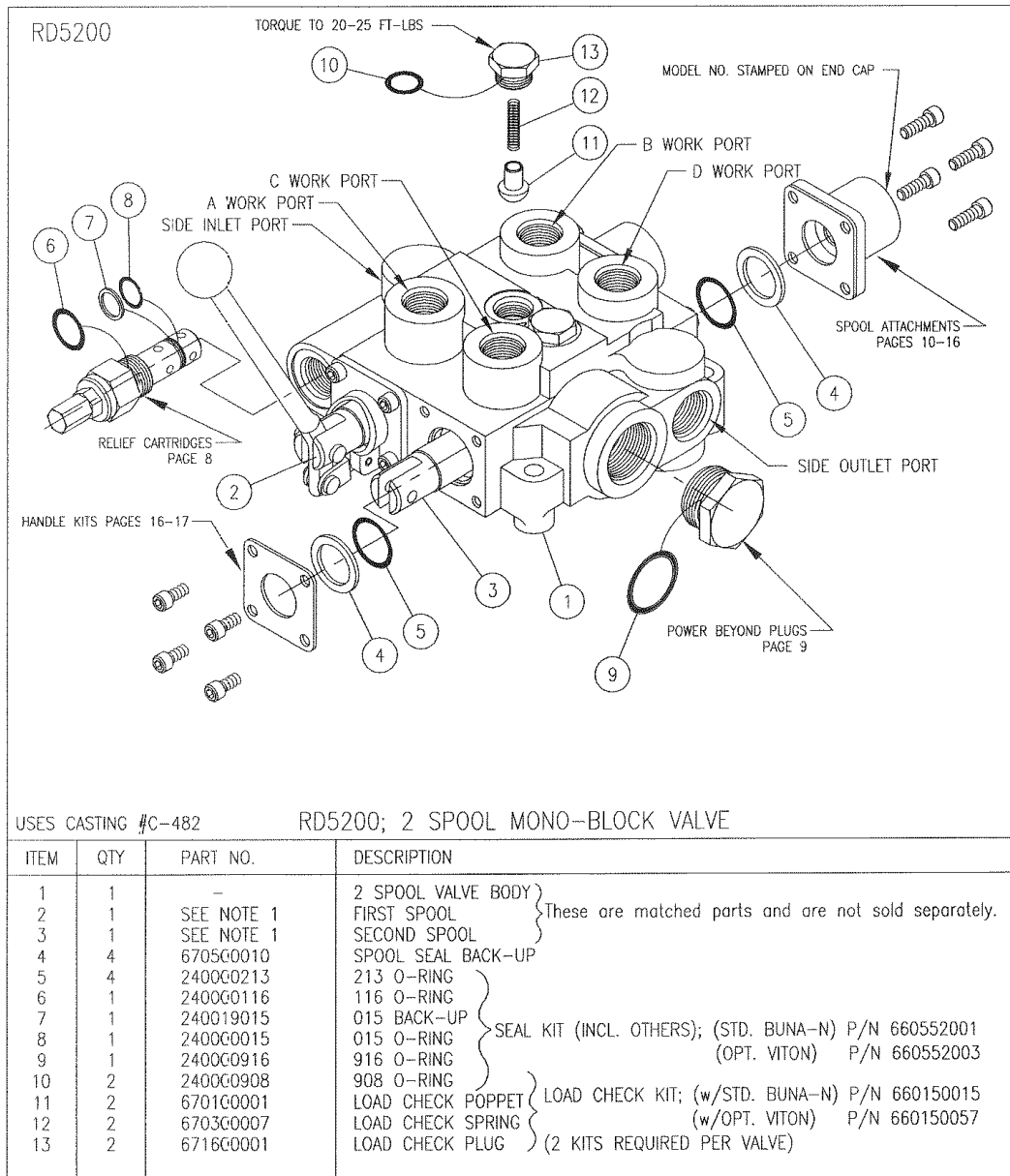


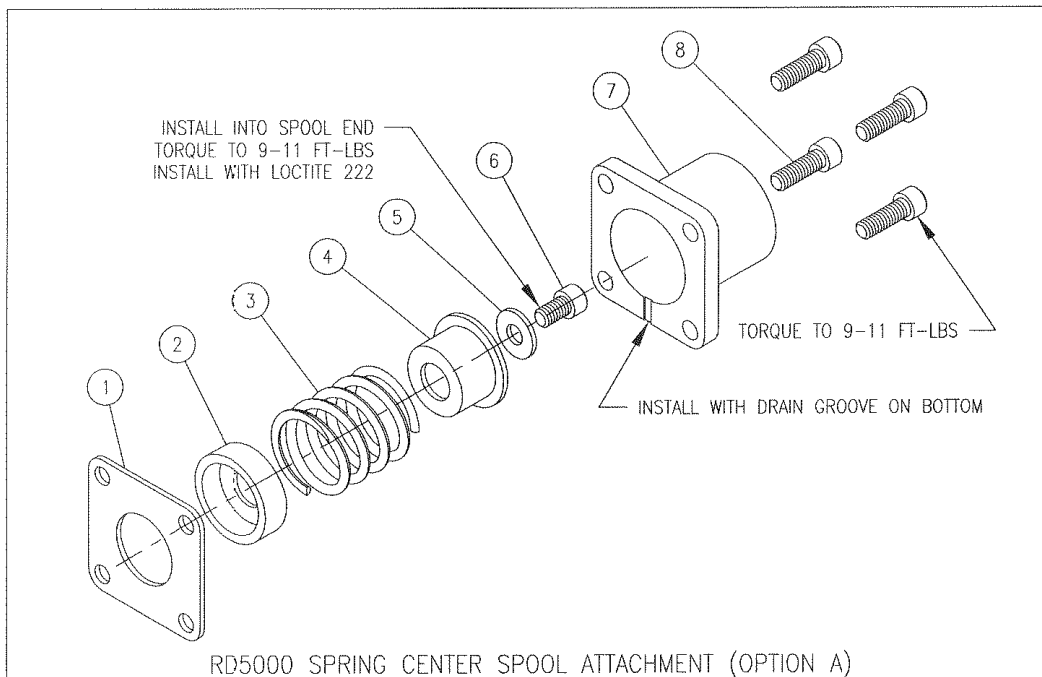
WARNING: DISCONNECTING THE HYDRAULIC LINES WHILE THE CYLINDER OR MOTOR IS UNDER LOAD MAY RESULT IN THE UNEXPECTED RAPID MOVEMENT OF MACHINE RESULTING IN SERIOUS PERSONAL INJURY.

4) DO NOT EXCEED THE OPERATING SPECIFICATIONS FOR PRESSURE, FLOW OR TEMPERATURE. ALL HYDRAULIC SYSTEMS REQUIRE A MEANS TO LIMIT THE MAXIMUM PRESSURE. THIS REQUIRES EITHER A PRESSURE RELIEF VALVE IN THE SYSTEM OR A PUMP THAT HAS PRESSURE COMPENSATION.



WARNING: OVERPRESSURE MAY CAUSE SUDDEN AND UNEXPECTED FAILURE OF A COMPONENT IN THE HYDRAULIC SYSTEM RESULTING IN SERIOUS PERSONAL INJURY. ALWAYS USE A GAUGE WHEN ADJUSTING A RELIEF VALVE.



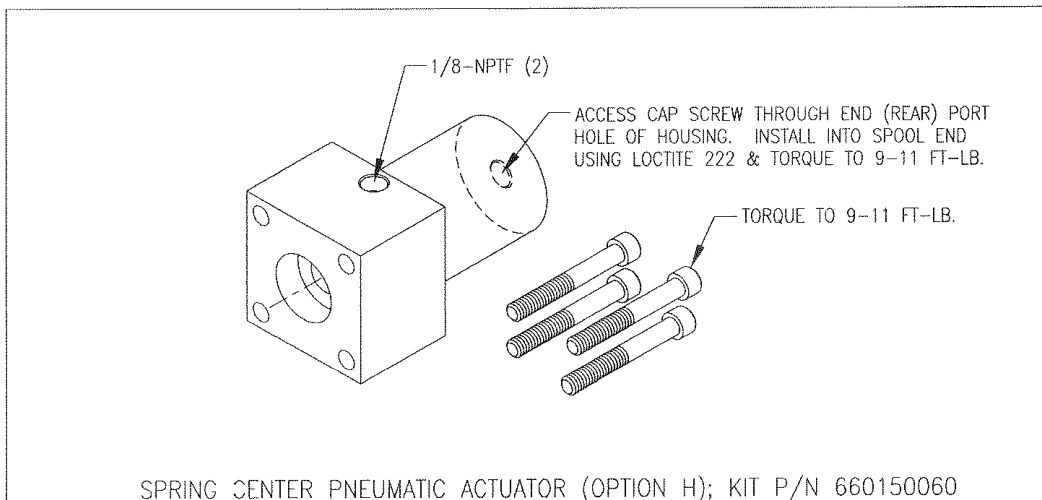


RD5000 SPRING CENTER SPOOL ATTACHMENT (OPTION A)

| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|-----------|-----------------------|
| 1 | 1 | 6705C0003 | RETAINER PLATE |
| 2 | 1 | 6714C0001 | STOP CUP (INNER) |
| 3 | 1 | 6703C0001 | CENTERING SPRING * |
| 4 | 1 | 6714C0011 | STOP CUP (OUTER) |
| 5 | 1 | 6705C0004 | WASHER |
| 6 | 1 | 1700C3007 | SOCKET HEAD CAP SCREW |
| 7 | 1 | 6705C0005 | END CAP |
| 8 | 4 | 1700C3008 | SOCKET HEAD CAP SCREW |

SPRING CENTER KIT; P/N 660150001

*STANDARD CENTERING SPRING CAN BE REPLACED WITH MEDIUM HEAVY SPRING P/N 670300047,
OR HEAVY SPRING P/N 670300043.



SPRING CENTER PNEUMATIC ACTUATOR (OPTION H); KIT P/N 660150060

