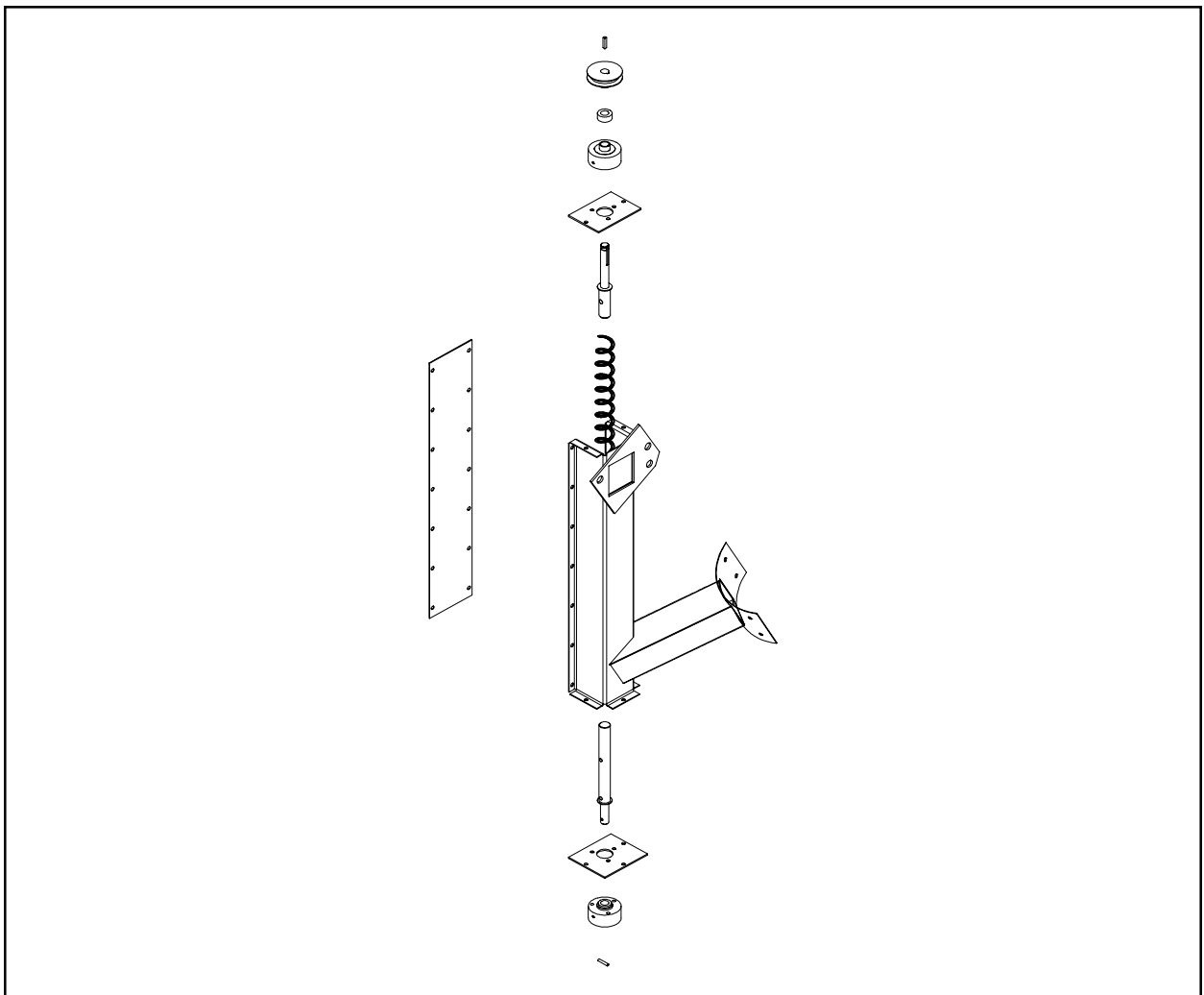


Moisture Sampler Installation Manual

PNEG-1283



a division of
THE GSI GROUP



September 2002

MOISTURE SAMPLER INSTALLATION MANUAL

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MOISTURE SAMPLER INSTALLATION MANUAL

WARRANTY

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IN NO EVENT SHALL GSI BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOSS OF ANTICIPATED PROFITS OR BENEFITS. PURCHASER'S SOLE AND EXCLUSIVE REMEDY SHALL BE LIMITED TO THAT STATED ABOVE, WHICH SHALL NOT EXCEED THE AMOUNT PAID FOR THE PRODUCT PURCHASED. THIS WARRANTY IS NOT TRANSFERABLE AND APPLIES ONLY TO THE ORIGINAL PURCHASER. GSI SHALL HAVE NO OBLIGATION OR RESPONSIBILITY FOR ANY REPRESENTATIVE OR WARRANTIES MADE BY OR ON BEHALF OF ANY DEALER, AGENT OR DISTRIBUTOR OF GSI.

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THE FOREGOING WARRANTY SHALL NOT COVER PRODUCTS OR PARTS WHICH HAVE BEEN DAMAGED BY NEGLIGENT USE, MISUSE, ALTERATION OR ACCIDENT. THIS WARRANTY COVERS ONLY PRODUCTS MANUFACTURED BY GSI. THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED. GSI RESERVES THE RIGHT TO MAKE DESIGN OR SPECIFICATION CHANGES AT ANY TIME.

PRIOR TO INSTALLATION, PURCHASER HAS THE RESPONSIBILITY TO RESEARCH AND COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES WHICH MAY APPLY TO THE LOCATION AND INSTALLATION.

MOISTURE SAMPLER INSTALLATION MANUAL

SAFETY PRECAUTIONS

General Safety Statements

The GSI Group Inc.'s Principal concern is your safety and the safety of others associated with grain handling equipment. We want to keep you as a customer. This manual is to help you understand safe operating procedures and some problems which may be encountered by the operator and other personnel.

As owner and/or operator, it is your responsibility to know what requirements, hazards and precautions exist and inform all personnel associated with, or in the area of the grain dryer. Safety precautions may be required from the personnel. Avoid any alteration to the equipment. Such alterations may produce a very dangerous situation, where serious injury or death may occur.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury



WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION

CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

BE ALERT!

Danger!



Personnel operating or working around electrical equipment should read this manual. This manual must be delivered with equipment to its owner. Failure to read this manual and its safety instructions is a misuse of the equipment.

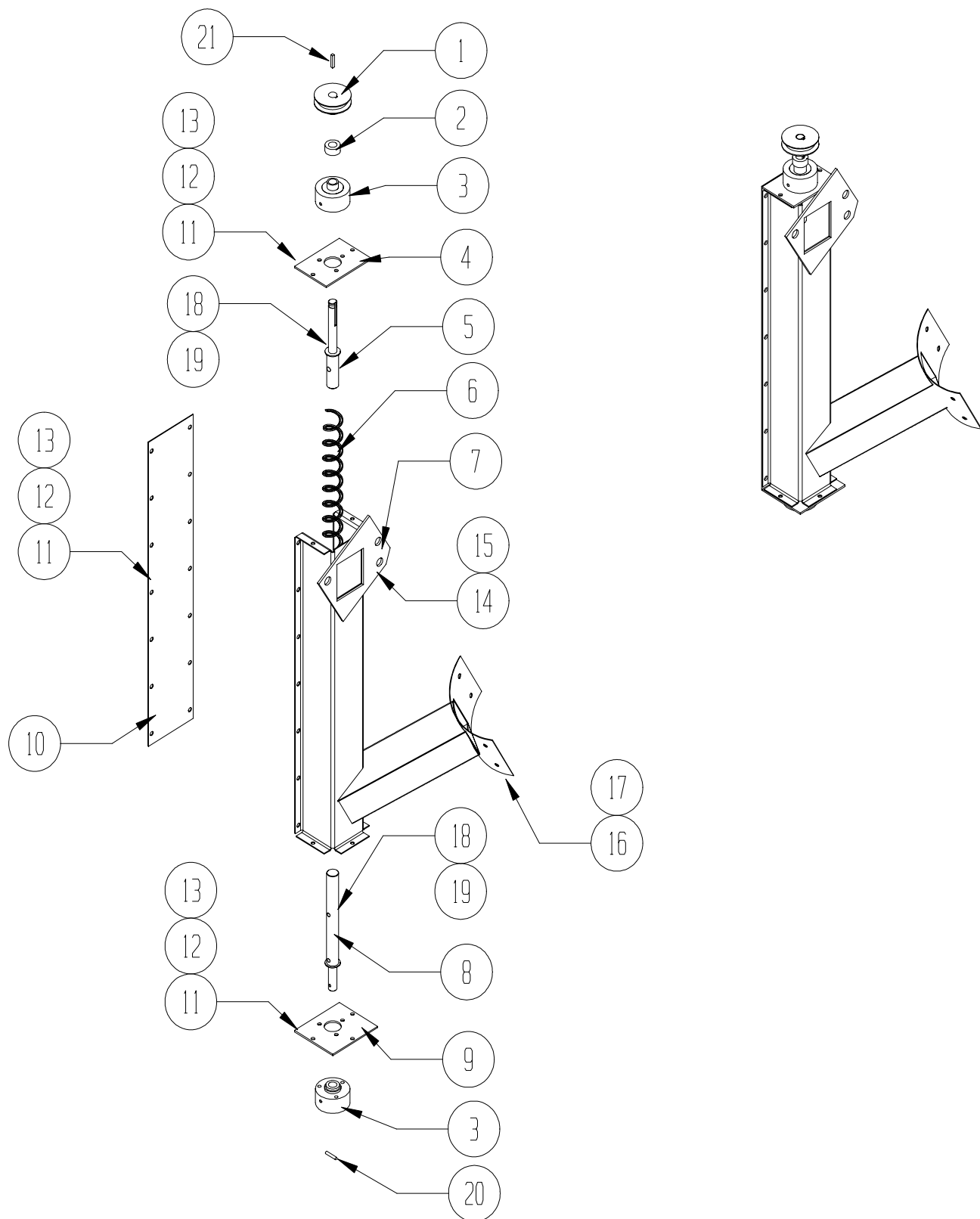
Important!

This product may have sharp edges! To avoid injury handle sharp edges with caution and use proper protective clothing and equipment at all times.

If you have any questions regarding installation and safety, please contact your GSI, Inc. representative.

MOISTURE SAMPLER INSTALLATION MANUAL

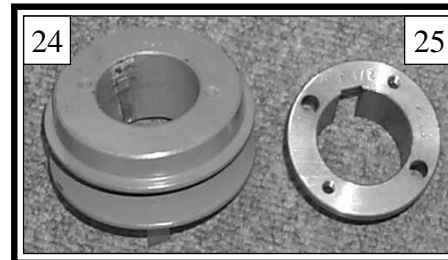
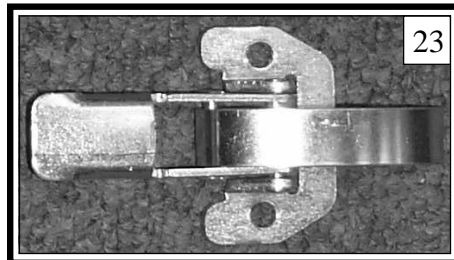
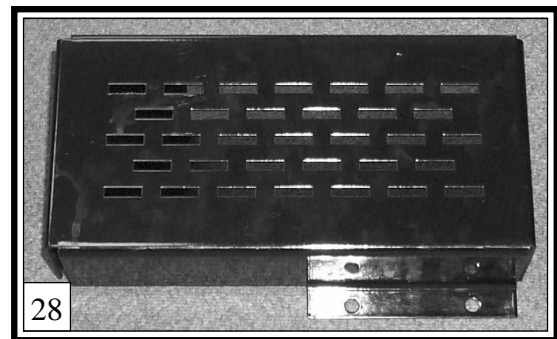
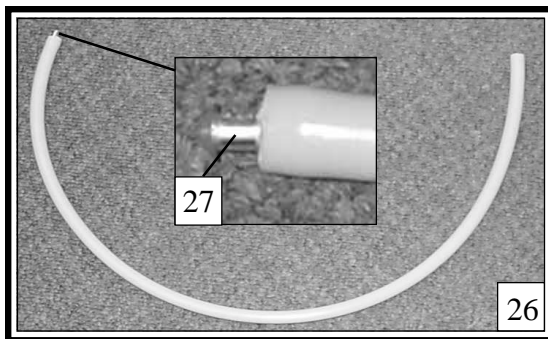
MOISTURE SAMPLER EXPLODED VIEW



MOISTURE SAMPLER INSTALLATION MANUAL

MOISTURE SAMPLER PARTS LISTING

| BILL OF MATERIALS | | | |
|-------------------|--------------|--|-----|
| Reference No. | Part No. | Description | Qty |
| 1 | S-6242 | 2.7" A-BELT SINGLE GROOVE PULLEY | 1 |
| 2 | S-4307 | 0.625 I. D. LOCKING COLLAR | 1 |
| 3 | FLX-2734 | UNLOADER BEARING ASSEMBLY | 2 |
| 4 | D01-1870 | MOISTURE SAMPLER END PLATE, 2 HOLE | 1 |
| 5 | FLX-2979 | MODEL 220 BELT DRIVER | 1 |
| 6 | 10FLXA1520 | MODEL 220 FLEX-FLO AUGER | 0.2 |
| 7 | D01-1875 | MOISTURE SAMPLER WELDMENT | 1 |
| 8 | FLX-2985 | MODEL 220 ANCHOR SPINDLE | 1 |
| 9 | D01-1871 | MOISTURE SAMPLER END PLATE, 3 HOLE | 1 |
| 10 | D01-1865 | MOISTURE SAMPLER COVER PLATE | 1 |
| 11 | S-2041 | WASHER, SPLIT LOCK 1/4" MED ZINC | 19 |
| 12 | S-1101 | BOLT, HHCS 1/4-20 x 1/2" ZN GR 2 | 19 |
| 13 | S-1102 | NUT, HEX 1/4-20 ZN GR 2 | 19 |
| 14 | S-9062 | BOLT, FLNGS 1/2-13 x 1 1/4" ZN GR 5 | 3 |
| 15 | S-8506 | NUT, FLANGWZ 1/2-13 ZN | 3 |
| 16 | S-6620 | SCREW, MS 5/16-18 x 3/4" THS GR 5 | 4 |
| 17 | S-3611 | NUT, FLANGWG 5/16-18 ZN GR 2 | 4 |
| 18 | S-4370 | J-BOLT, 1/4-20 x 1 1/2" BK GR 5 | 3 |
| 19 | S-4310 | NUT, LOCK 1/4-20 GR 2 DEFORMED | 3 |
| 20 | S-8169 | ROLL PIN, 3/16 x 1" | 1 |
| 21 | FLX-2377 | KEY, 3/16 x 3/16 x 1 | 1 |
| 22 | S-7385 | SCREW, TCSF #8-32 x 1/4 PHP ZINC (FOR LATCH) | 4 |
| 23 | 3FH1201 | LATCH, TENSION, REG BASE ZINC PLATED | 2 |
| 24 | 3X957 | PULLEY, 3" - 1 GROOVE w/o BUSHING | 1 |
| 25 | D32-0016 | BUSHING, H 1 1/2" SPLIT TAPER | 1 |
| 26 | D01-1876-BLT | MOISTURE SAMPLER BELT | 2 |
| 27 | D01-1876-CON | MOISTURE SAMPLER BELT CONNECTOR | 1 |
| 28 | D01-1888 | MOISTURE SAMPLER BELT GUARD | 1 |
| 29 | S-7927 | BOLT, FLNG 3/8-16 x 1" ZN GR 8.2 | 4 |
| 30 | S-968 | NUT, FLANGWZ 3/8-16 ZN GR 2 | 4 |
| 31 | DC-971 | DECAL, BELT DRIVE WARNING | 2 |
| NOT SHOWN | PNEG-1283 | MOISTURE SAMPLER ASSEMBLY AND INSTALLAION MANUAL | 1 |

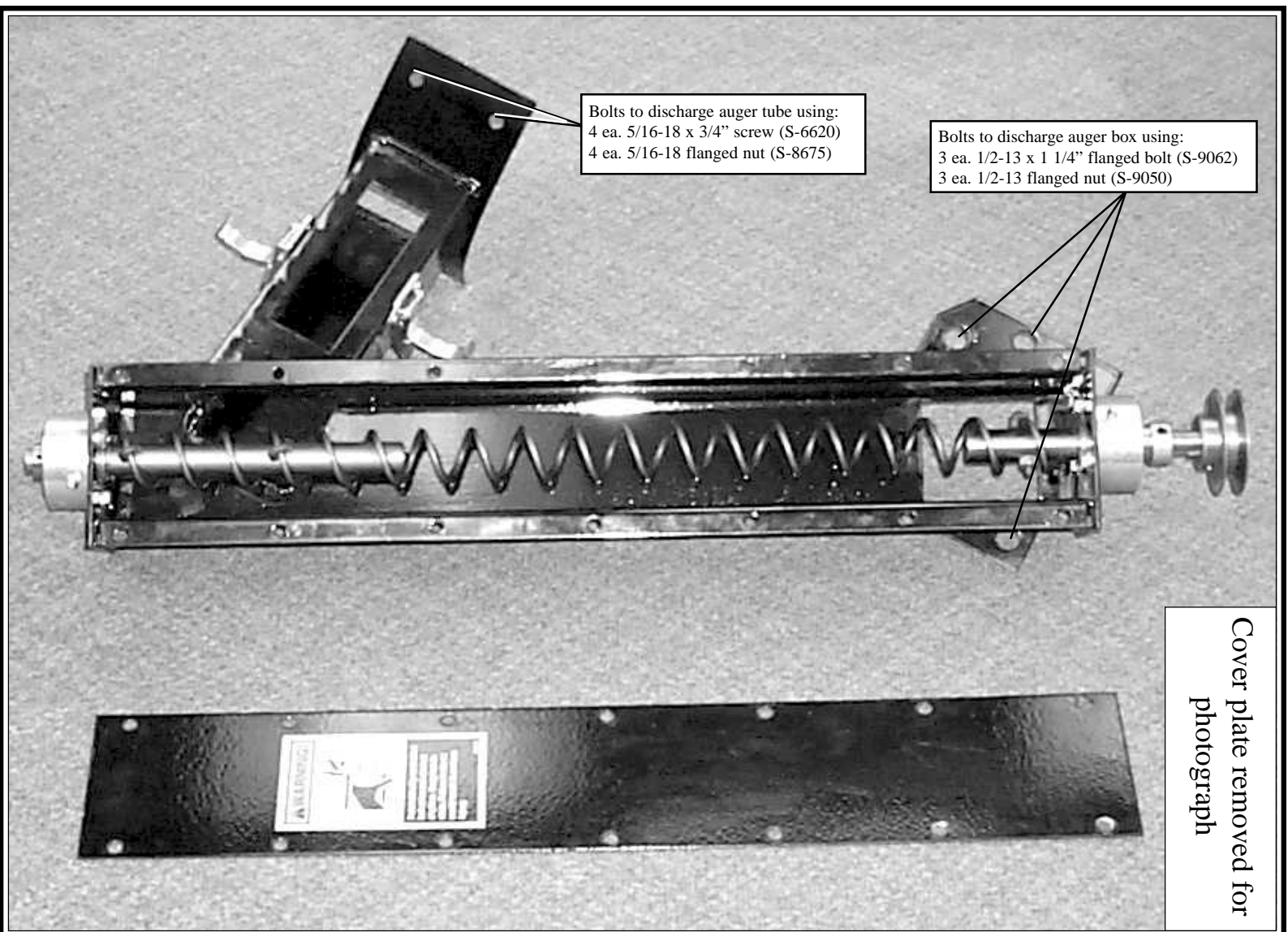


-NOTE-

**Part No. for Moisture Sampler complete and assembled is
D01-1876 (includes all parts listed above).**

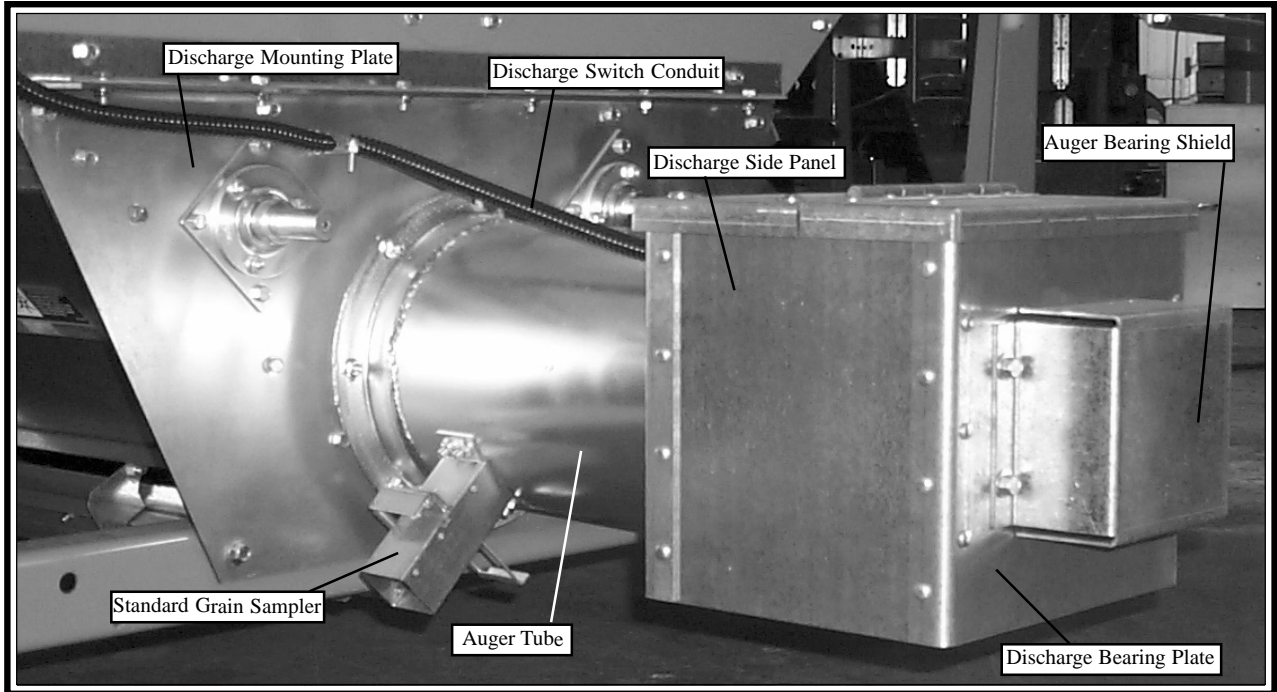
MOISTURE SAMPLER INSTALLATION MANUAL

MOISTURE SAMPLER ASSEMBLY AS RECEIVED

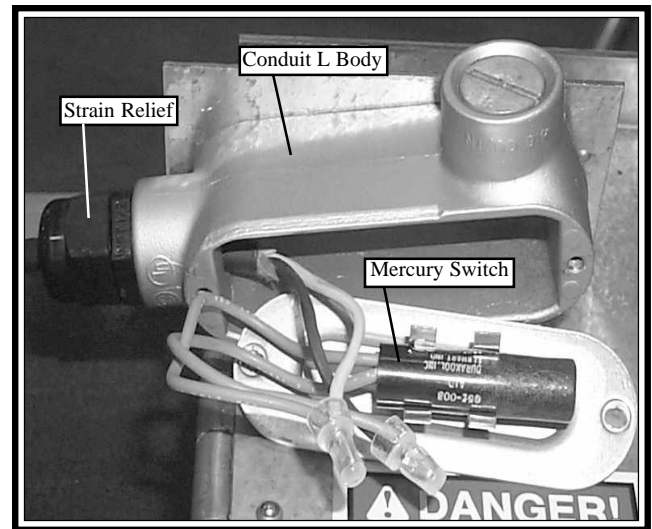
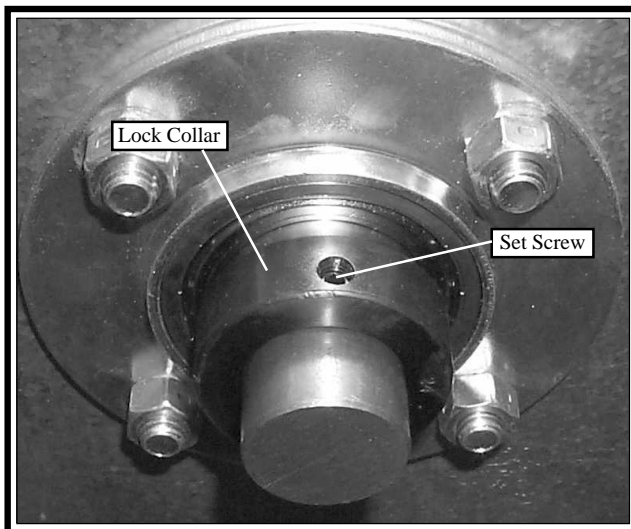


MOISTURE SAMPLER INSTALLATION MANUAL

INSTALLATION INSTRUCTIONS - PRE-SEPT. 2002 DRYERS



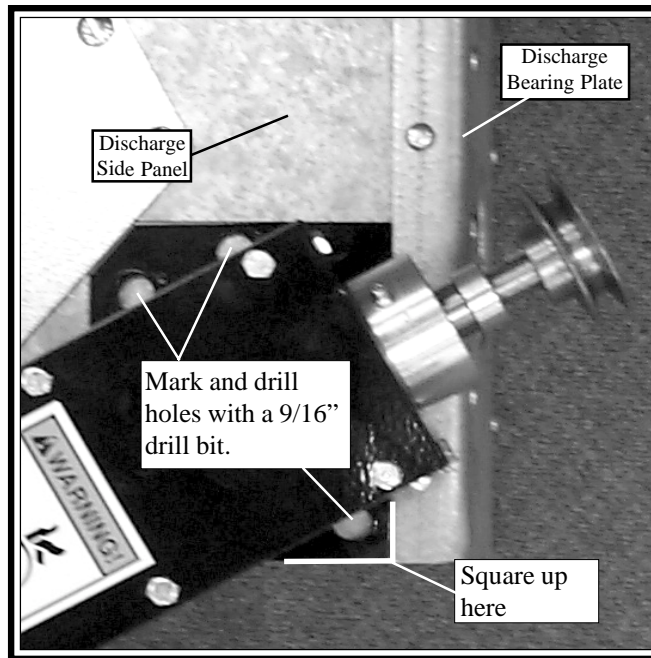
- Step 1:** Remove the auger bearing shield.
- Step 2:** Loosen the set screw on the bearing lock collar with an allen wrench and slide the lock collar off the auger shaft. The lock collar is **not** needed for this installation. Unclip the discharge mercury switch and unscrew the strain relief from the conduit L body and pull out the mercury switch (there is no need to cut the mercury switch wires). See photographs below.
- Step 3:** Remove the discharge switch conduit connector and pull the wire and mercury switch out of the discharge box.
- Step 4:** Unbolt the discharge box assembly where the auger tube and discharge mounting plate meet. Remove the discharge box assembly from the dryer.
- Step 5:** Remove the standard grain sampler from the discharge box assembly auger tube.



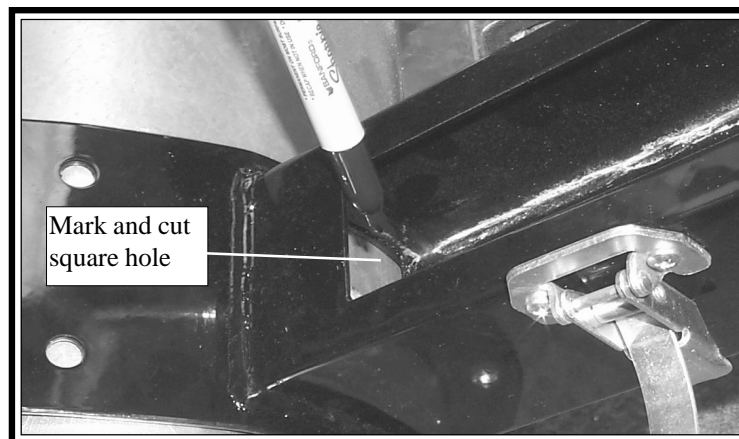
MOISTURE SAMPLER INSTALLATION MANUAL

INSTALLATION INSTRUCTIONS - PRE-SEPT. 2002 DRYERS

- Step 6:** Hold the moisture sampler assembly up to the side of the discharge box assembly. Square the drive end mount of the moisture sampler with the overlapping edge of the discharge bearing plate and the bottom edge of discharge side panel. With a marker mark the three bolt holes on the drive end of the moisture sampler. See photograph below.
- Step 7:** On the discharge side plate at the drive end of the moisture sampler drill three 9/16" holes at the marks made in step 6.

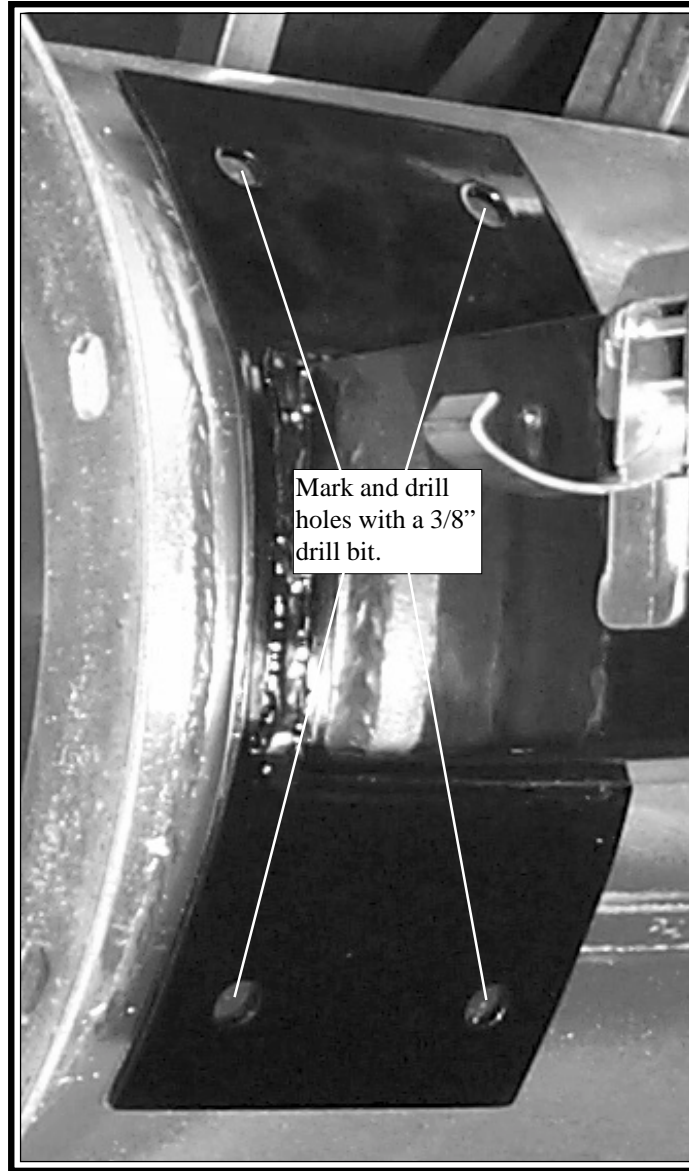


- Step 8:** Using a sheet of paper make a template of the back side of the mounting plate on the drive end of the moisture sampler. Use this template to mark the square hole in the discharge side panel. Including the three bolt holes in the template will help to ensure correct hole alignment.
- Step 9:** Cut out the square hole marked out in step 8.
- Step 10:** Now put the moisture sampler assembly up to the discharge box again and put in the 3/8" bolts and nuts and tighten just enough to firmly hold moisture sampler in place. Use a marker and mark the four holes at the sensor end of the assembly as shown on page 11. Also mark the square hole inside the sample tube as shown below.



MOISTURE SAMPLER INSTALLATION MANUAL

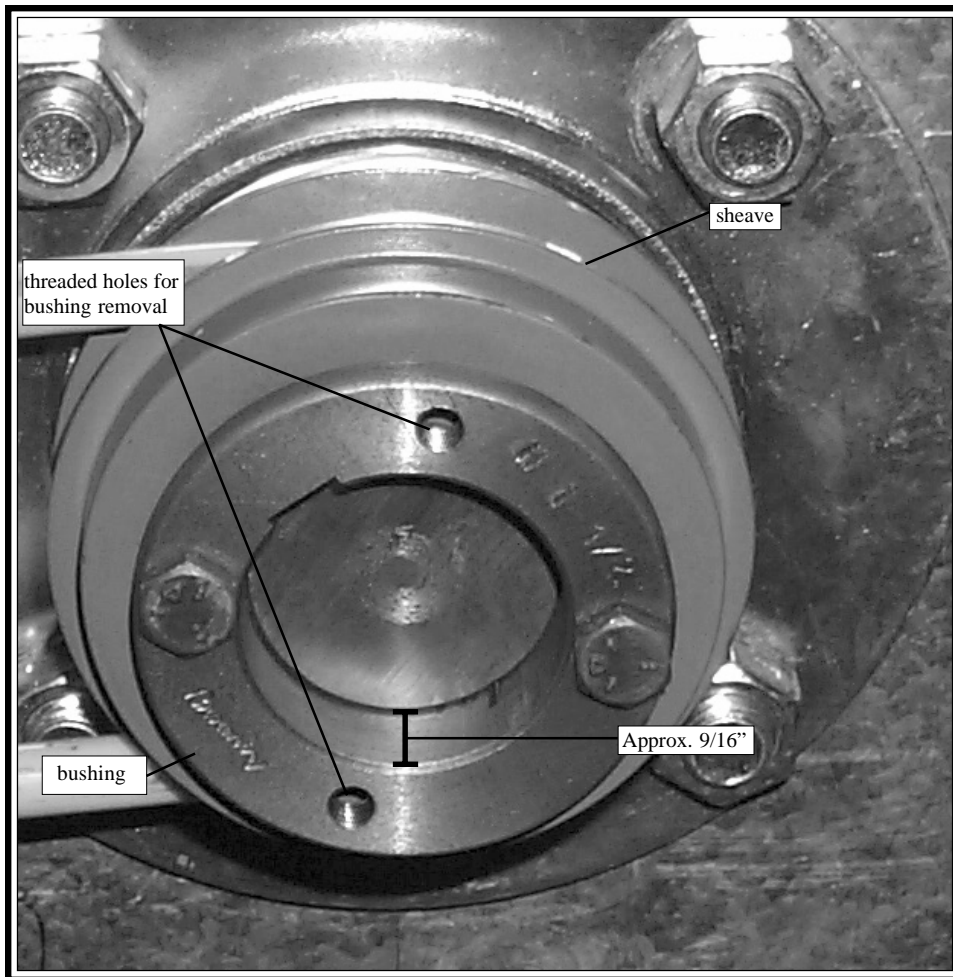
INSTALLATION INSTRUCTIONS - PRE-SEPT. 2002 DRYERS



- Step 11:** Remove the moisture sampler again and drill the four bolt holes at the sensor end with a 3/8" drill bit and cut out the square hole marked out in step 10.
- Step 12:** After holes are cut and drilled install the moisture sampler using three 1/2" bolts (S-9062) and nuts (S-9050) on the drive end and four 5/16" screws (S-6620) and nuts (S-8675) on the sensor end.
- Step 13:** Now reinstall discharge box assembly in the reverse order that it was removed.
- Step 14:** Install sheave (3X957) and bushing (D32-0016) on the bottom auger shaft that extends through the discharge box. The key that comes with the bushing is not needed for this installation. Slide bushing into the sheave (leave loose, do not force the bushing in). Slide sheave and bushing onto the auger shaft all the way against the auger shaft bearing. Insert bushing bolts through the non-threaded holes of the bushing (threaded holes are for bushing removal) and thread into the holes of the sheave. Tighten bolts evenly until bushing is secure and will not slip on the auger shaft. There will be approximately 9/16 inch distance between the end of the auger shaft and the edge of the bushing. See photograph on next page.

MOISTURE SAMPLER INSTALLATION MANUAL

INSTALLATION INSTRUCTIONS - PRE-SEPT. 2002 DRYERS

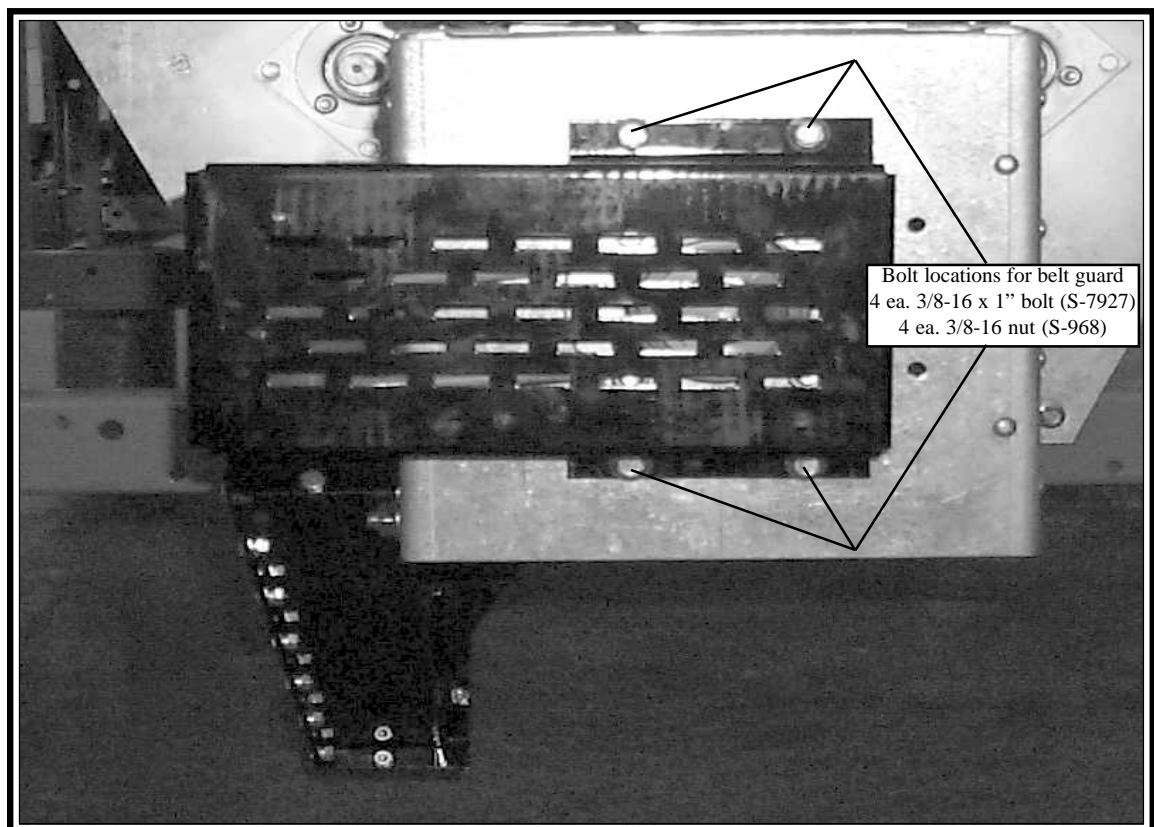
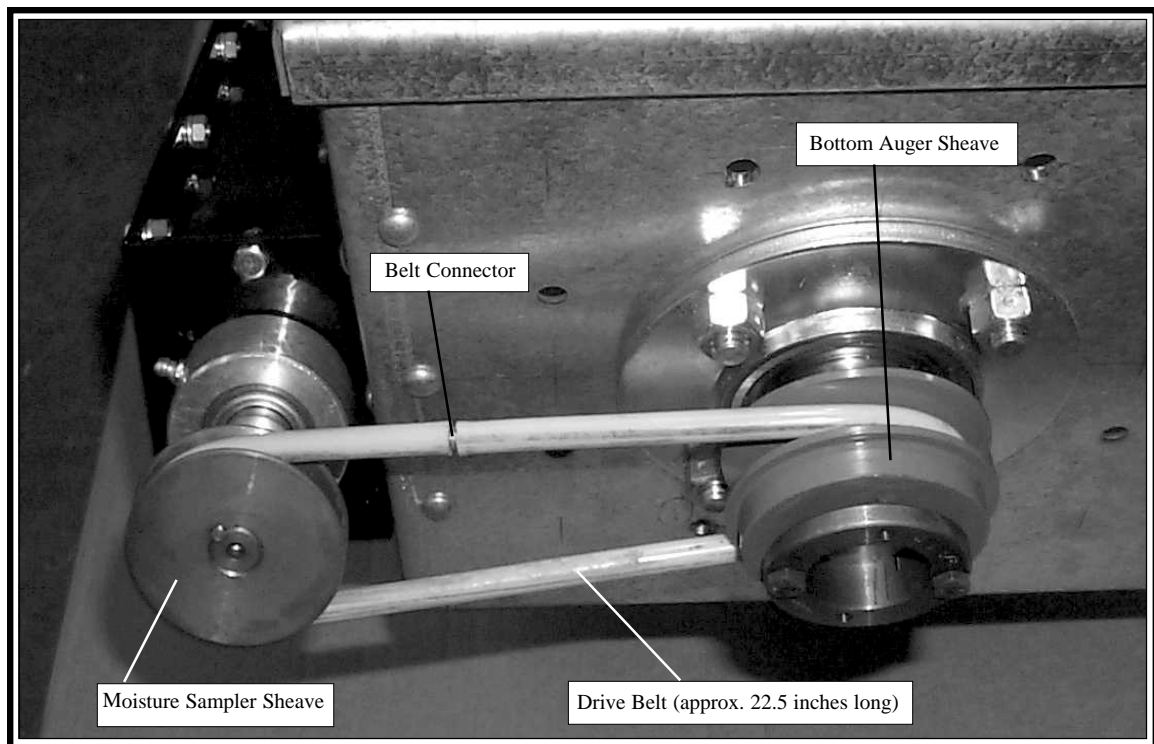


Step 15: To install the moisture sampler drive belt, push the belt connector into one end of the belt if not already done (*once the belt connector is in the belt removal of the connector will be very difficult*). Wrap the belt around the sheaves of the moisture sampler and the auger shaft to get an idea for the length of the belt needed. Trim the belt if needed (*approximate length of the belt should be about 22 1/2 inches*). Push the other end of the belt over the connector. Wrap the belt around the bottom auger shaft first then have another person turn the bottom auger while the person installing the belt loops the belt around moisture sampler sheave. Belt should be quite tight so as not to slip.

Step 16: Install the belt guard using four 3/8" bolts (S-7927) and nuts (S-968).

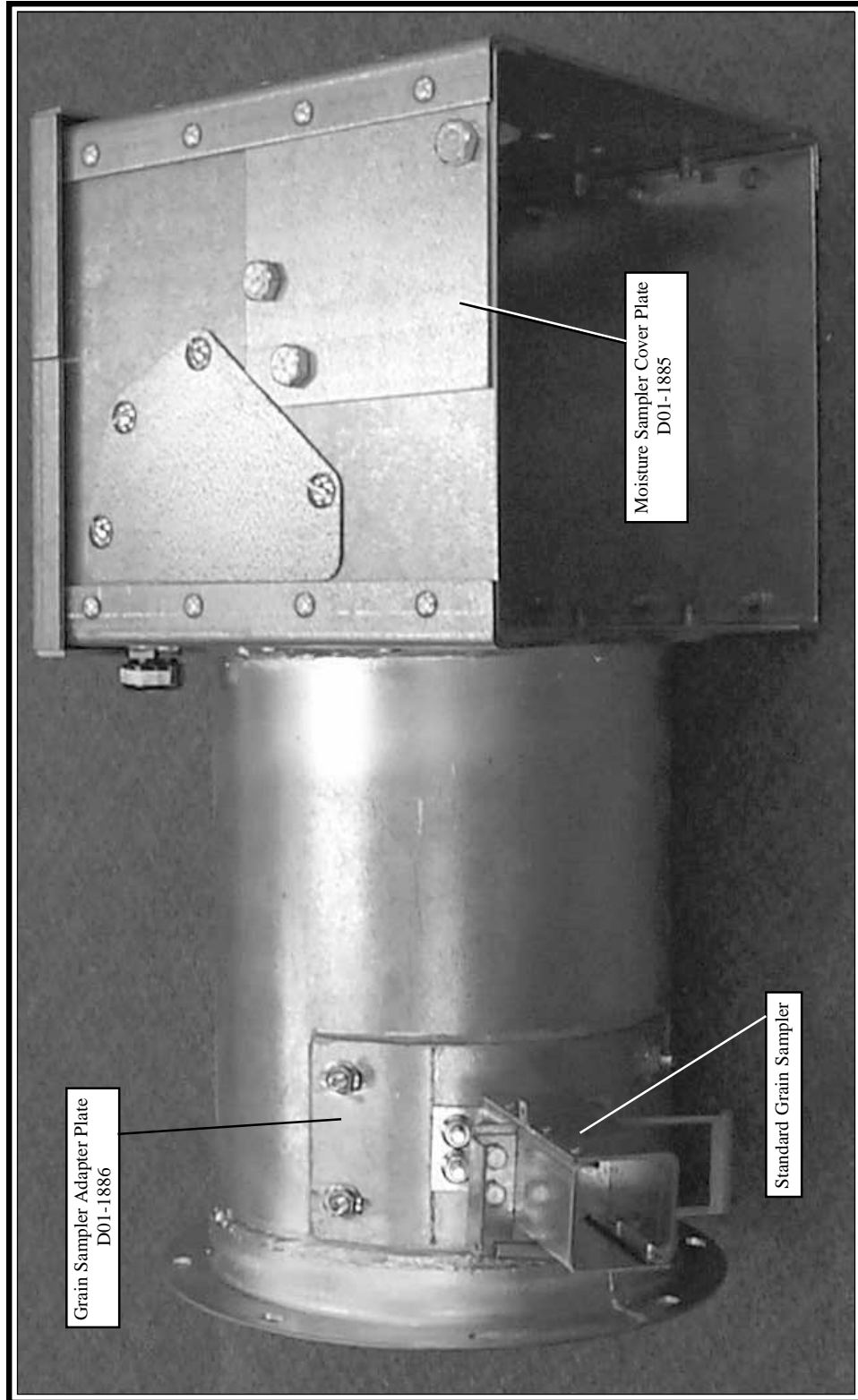
MOISTURE SAMPLER INSTALLATION MANUAL

INSTALLATION INSTRUCTIONS - PRE-SEPT. 2002 DRYERS



MOISTURE SAMPLER INSTALLATION MANUAL

NEW DISCHARGE BOX ASSEMBLY

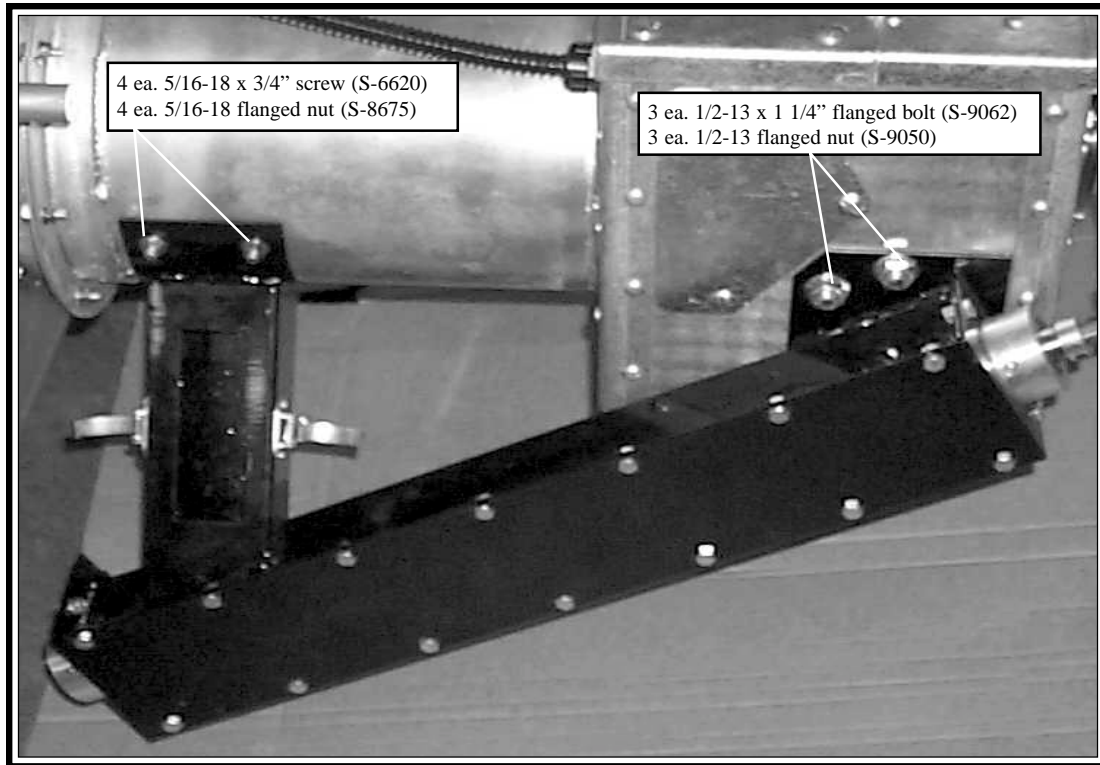


New Discharge Box Part No. - D01-0481-MS

MOISTURE SAMPLER INSTALLATION MANUAL

INSTALLATION INSTRUCTIONS - DRYERS W/NEW DISCHARGE BOX ASSEMBLY

- Step 1:** Remove the moisture sampler cover plate (D01-1885).
- Step 2:** Remove the grain sampler adapter plate and the standard grain sampler with it.
- Step 3:** Install the moisture sampler using three 1/2" bolts (S-9062) and nuts (S-9050) on the drive end and four 5/16" screws (S-6620) and nuts (S-8675) on the sensor end.



- Step 4:** Install sheave (3X957) and bushing (D32-0016) on the bottom auger shaft that extends through the discharge box. The key that comes with the bushing is not needed for this installation. Slide bushing into the sheave (leave loose, do not force the bushing in). Slide sheave and bushing onto the auger shaft all the way against the auger shaft bearing. Insert bushing bolts through the non-threaded holes of the bushing (threaded holes are for bushing removal) and thread into the holes of the sheave. Tighten bolts evenly until bushing is secure and will not slip on the auger shaft. There will be approximately 9/16 inch distance between the end of the auger shaft and the edge of the bushing. See photograph on page 12.

NOTE: AUGER SHAFT BEARING LOCK COLLAR WILL NOT BE NEEDED FOR THIS INSTALLATION

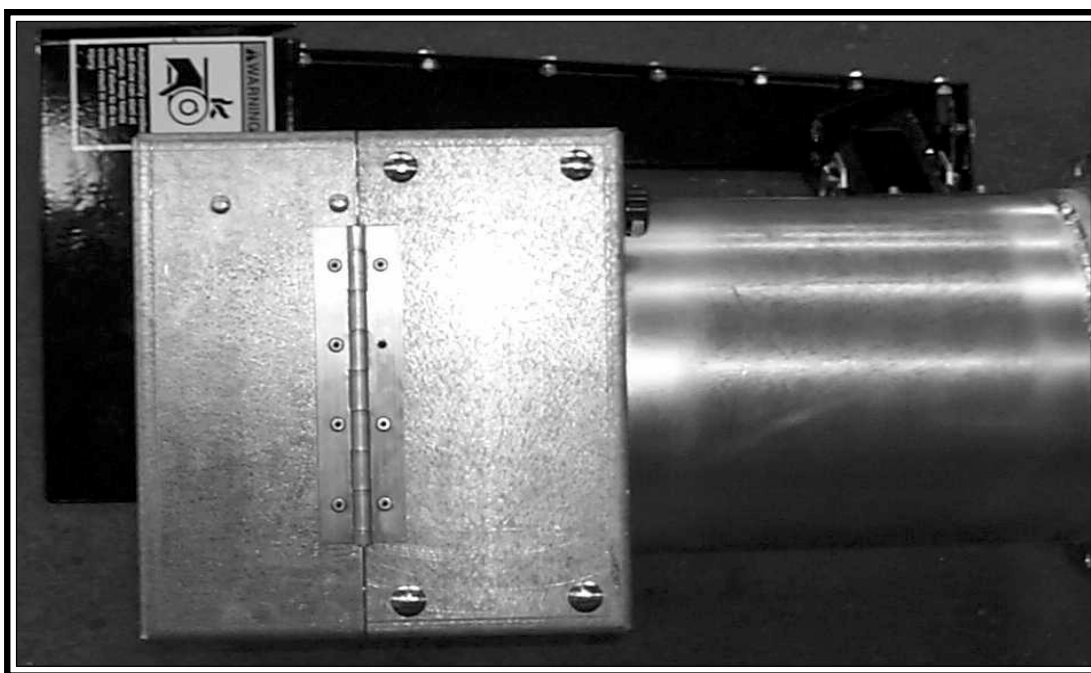
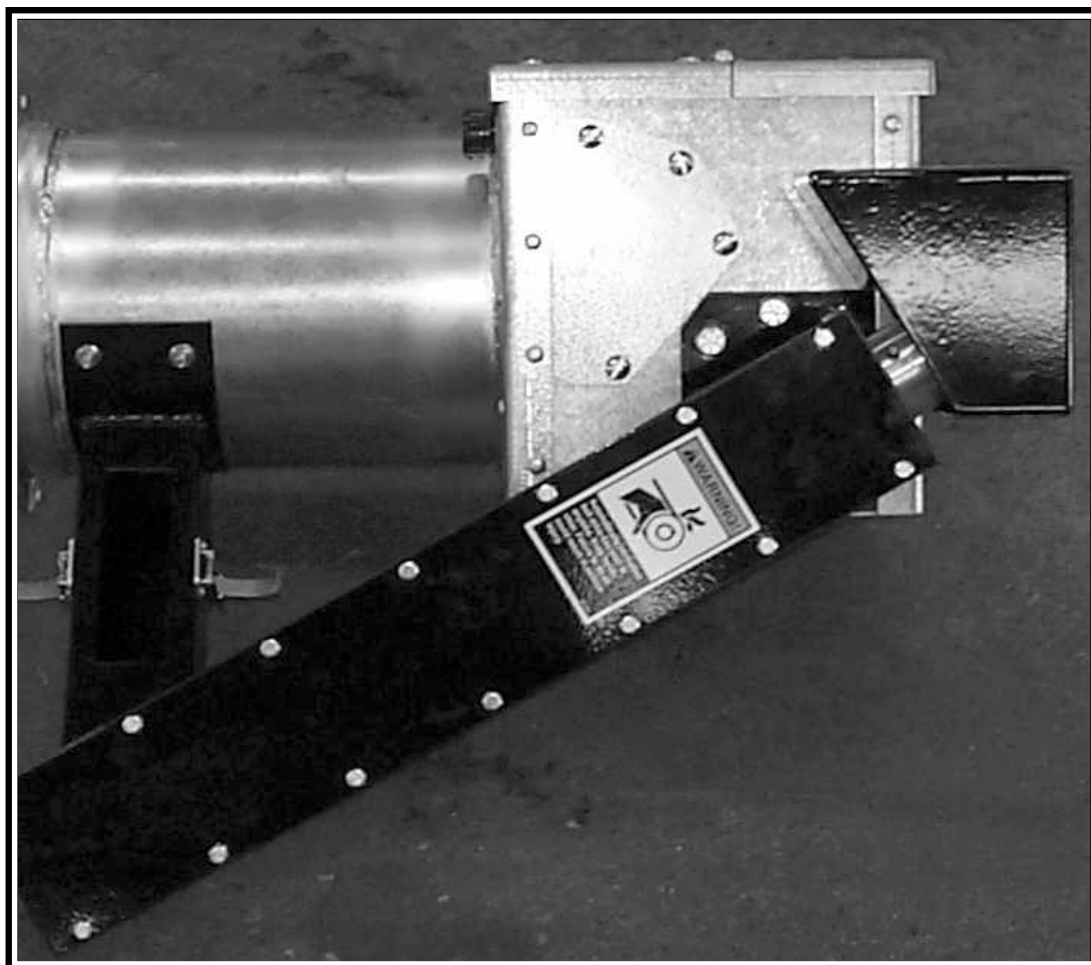
- Step 5:** To install the moisture sampler drive belt, push the belt connector into one end of the belt if not already done (*once the belt connector is in the belt removal of the connector will be very difficult*). Wrap the belt around the sheaves of the moisture sampler and the auger shaft to get an idea for the length of the belt needed. Trim the belt if needed (*approximate length of the belt should be about 22 1/2 inches*). Push the other end of the belt over the connector. Wrap the belt around the bottom auger shaft first then have another person turn the bottom auger while the person installing the belt loops the belt around moisture sampler sheave. Belt should be quite tight so as not to slip.
- Step 6:** Install the belt guard using four 3/8" bolts (S-7927) and nuts (S-968). See photograph at the bottom of page 13.

SAFETY DECAL



MOISTURE SAMPLER INSTALLATION MANUAL

SAFETY DECAL LOCATIONS



MOISTURE SAMPLER INSTALLATION MANUAL

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September 2002