Proline II Rejector Installation Guide

for Models:

- FS-30/FSRC
- FT-50
- FT-70
- FT-75

Document 40279-0502

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1. Proline II Installation Overview

This section provides general information about the Proline II High Speed Rejector that is applicable when using the Proline II with an FS-30/FSRC, FT-50, FT-70, or FT-75. It includes information about:

- Rejector specifications.
- Common installation requirements for use with these inspection systems (conveyor, pneumatic, space).
- Common considerations for choosing a mounting location.

1.1 System Overview

The Proline II removes containers from the production line by knocking them off the production line and onto a reject conveyor, or into a reject bin.

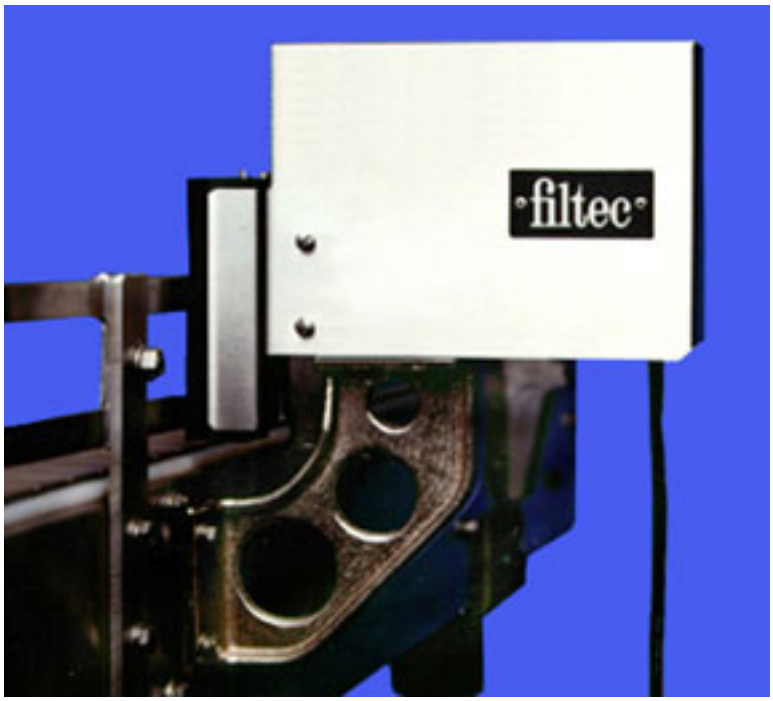


Figure 1-1. The Proline II Rejector.

The rejector is controlled by the inspection system to which it is connected. The inspection systems covered in this manual are the:

- FS-30 Freestanding Rejection Controller and the FT-50/70/75 Fill Level Inspectors. For more information see Connecting and Configuring the Proline II on page 3-1.

Note: Unless specifically indicated, the instructions in this manual apply to all inspection systems listed above.

1.2 System Requirements

The following requirements and specifications are common to all the IDC inspection systems listed in this document. When applicable you will be directed to the appropriate section for information about using the Proline II with a specific inspection system.

1.2.1 Conveyor Requirements

Since the Proline II will reject cans or bottles made from many types of material, correct conveyor configuration is critical to obtain proper operation of the Proline II. This is especially important for bottle applications when you want the bottle to remain standing after rejection.

- ❑ To mount the Proline II, the conveyor sidewall should be at least 5 inches (127 mm) tall. If your conveyor sidewall is not 5 inches tall, you must fabricate an adapter plate and attach it to the conveyor in order to provide the 5 inches needed to securely support the rejector. Read the following requirement about sidewall rigidity as you may be able to create one plate to meet both requirements. For more information see Sidewall Height and Sidewall Stiffness on page 2-2.
- ❑ The sidewalls of the conveyor must be rigid. If the conveyor does not have stiff sidewalls and/or is not rigidly mounted to the floor, you must install sidewall stiffeners. For more information see Sidewall Height and Sidewall Stiffness on page 2-2.
- ❑ All conveyor chains passing through the rejection area must have a flatness tolerance of 0.004 inches (0.1 mm) or better, and a surface roughness of 24 micro inches (0.6 micro meters) or smoother. A good test is to push an empty glass bottle across the chain. It should slide by itself without tipping for at least 2 feet (60 cm). Industrial Dynamics can provide information on chain suppliers whose products meet these specifications.
- ❑ If using a reject conveyor, the rejection conveyor chain(s) must sit lower than the production chain. From the production chain outward each successive reject chain should be stepped down +0.000/-0.020 inches (+0.0/-0.5 mm) lower than the preceding chain. This can be achieved by using different chain wear strip thicknesses.

- ❑ Wear strips for conveyor chains that pass through the inspection and rejection areas must be pinned to the conveyor undercarriage at the upstream end only. This eliminates the possibility of the wear strips buckling or warping due to expansion and contraction and altering the height of the chain.
- ❑ The Proline II must be mounted far enough downstream from the reject conveyor sprocket shaft to allow the conveyor chain to level out and settle completely onto the wear strips. A distance of at least 8 inches (20 cm) is recommended.
- ❑ If your conveyor contains raised separators between the chains, the surface of the separator should be at least two-thirds the thickness of the chain below the chain surface. This compensates for the gradual lowering of the chain surface as the wear strips wear, and prevents the separator from becoming higher than the chain surface and interfering with containers as they move across the conveyors.
- ❑ The rejection conveyor or accumulation table must be wide enough to prevent containers from rebounding off the far rail and re-entering the production conveyor or rejection area.
    - If you are using a reject conveyor, it should be 7.5 inches wide, or at least 2 container widths wide. If using multiple reject conveyors, the total width of all reject conveyors should meet this requirement.
    - If you are using an accumulation table, the table should be at least 18 inches wide by 42 inches long.
- ❑ On fast production lines where container spacing is tight, there is a tendency when several containers are rejected consecutively for the containers to collide as they slide onto the rejection conveyor. To eliminate this problem, the reject conveyor(s) should move 5 percent faster than the production conveyor.
- ❑ To prevent jamming of downed bottles, we recommended that you install a separator rail and triangular nose piece downstream from the rejector between the production and rejection conveyor lanes. The nose piece should be 0.5 in [13 mm] above the chain surface, rising at a 15-20 degree angle to the top of the guide rail.
- ❑ The production conveyor guiderail on the rejector side must be parallel to the chain motion (not angled) and the face of the rejector pad must not protrude beyond the inside face of the guide rails when the rejector is in the resting position. This prevents containers from bumping the rejector pad as they pass the rejector and creating a container deflection that could result in a line jam at the lane separator.

- ❑ The production conveyor lane width created by the guiderails upstream of the Proline II must be no more than 0.2 inches (5 mm) wider than the containers diameter. This prevents the containers from drifting away from the rejector pad.

1.2.2 Pneumatic Requirements

The Proline II uses your facility compressed air to drive the rejection pad. Operational pressure for the Proline II is 65 PSIG @ 0.0018 SCFM/per operation. The facility air supply should be between 80 ~ 125 PSIG @ 2.5 CFM (551.6 ~ 861.9 kPa). The regulator's air filter removes particles and suspended liquid droplets larger than 40 microns. and has an automatic drain.

Note: Do not use the pressure regulator adjustment to change the rejector's stroke. Instead use the appropriate function in the system software of your inspection system.

If your facility air pressure cannot maintain the required air pressure during sustained rejector activation, you may need to install an air reservoir. This will insure the air pressure does not drop below the required level and cause the rejector to malfunction.

1.2.3 Container Requirements

Size and Shape

The Proline II can accommodate various sized cans and bottles made from many different materials and in many different shapes, including contoured bottles. Odd shaped (non-round) and plastic containers should be sent to Industrial Dynamics for testing and evaluation to determine if they are suitable for use with the Proline II.

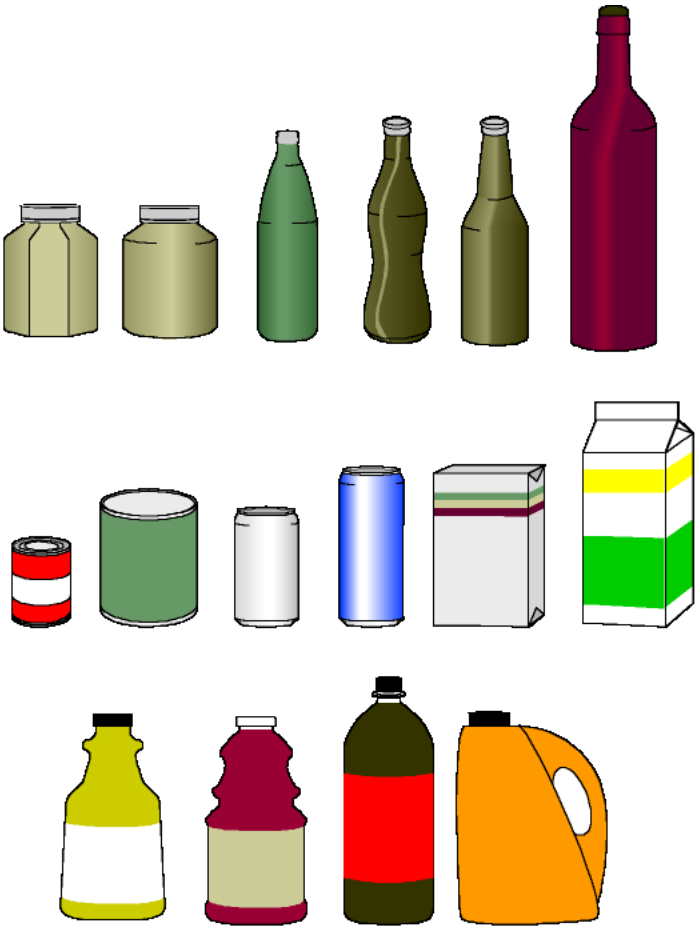


Figure 1-2. Various container types that can be rejected.

Spacing Between Containers

The Proline II does not require containers to be consistently spaced, however they must not be interleaved, backed-up, or staggered.

The conveyor must also be adjusted so that:

- The containers do not slide or spin as they pass between the inspection unit and the rejector.
- The containers are stable and do not bounce or vibrate excessively.
- The guide rails position passing containers no more than 1/8 inch (2.92 to 3.08 mm) from the face of the rejector pad.

Note: If the containers are tightly spaced or frequently touching at the rejection point, the rejection conveyor(s) should be running 5 percent faster than the production conveyor in order to prevent container collisions.

1.3 Selecting a Mounting Location

When installing the Proline II with an FS-30 or FT-50/70/75 inspection system, you must also fulfill the following requirements in addition to those listed in System Requirements on page 1-3 :

- ❑ The rejector can be no more than four container diameters downstream of the inspection trigger sensor if you are not using an encoder. This can be increased to no more than 32 container diameters downstream when a high resolution encoder is installed.
- ❑ If the Proline II will be rejecting containers onto a reject or takeaway conveyor, it must be installed eight inches (200 mm) downstream of the sprocket shaft.

No.	Description
1	Proline II Centerline or Trigger Sensor (FS-30)
2	Sprocket Shaft Centerline
3	Inspection Unit/Trigger Centerline
4	12 inches (305 mm) minimum
5	8 inches (203 mm) minimum
6	Facility Air Input
7	Air controls
8	Air Output (to rejector)
9	Reject Signal Cable

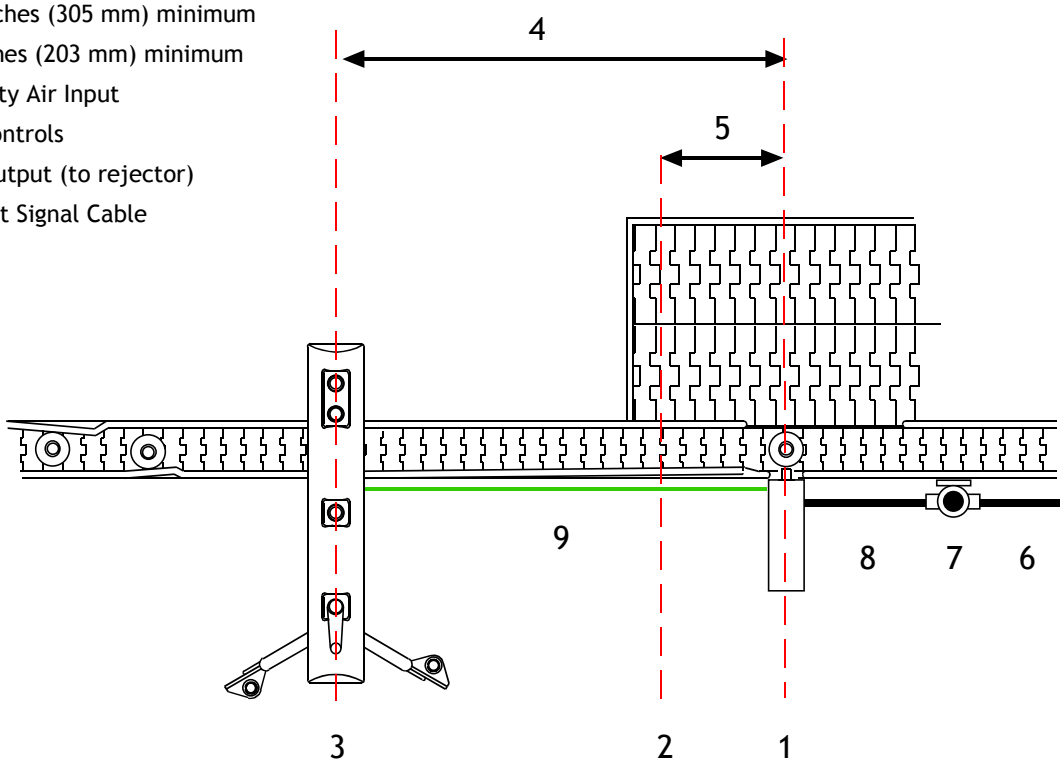


Figure 1-3. Typical Proline II installation when used with an FS-30,or FT-50/70/75.

2. Mounting the Proline II

This section guides you through the process of mounting the rejector and the rejector air controls to the conveyor. Before you begin the mounting process, be certain the location you have selected to install the rejector meets all the requirements specified in System Requirements on page 1-3.

2.1 Before You Begin

Before you begin to mount the rejector be sure you meet the system requirements. For more information see System Requirements on page 1-3.

To help you during the mounting procedure refer to the installation drawings provided with this document.

System	Description	Drawing No.
FT-50/70/75 and FS-30	These installation drawings are for various types of Proline II installations. Choose the drawing that best suits your requirements.	I00378 I00393 I00402 I00411 I00418 I00442 I00510 I00435 I00738

2.1.1 Sidewall Height and Sidewall Stiffness

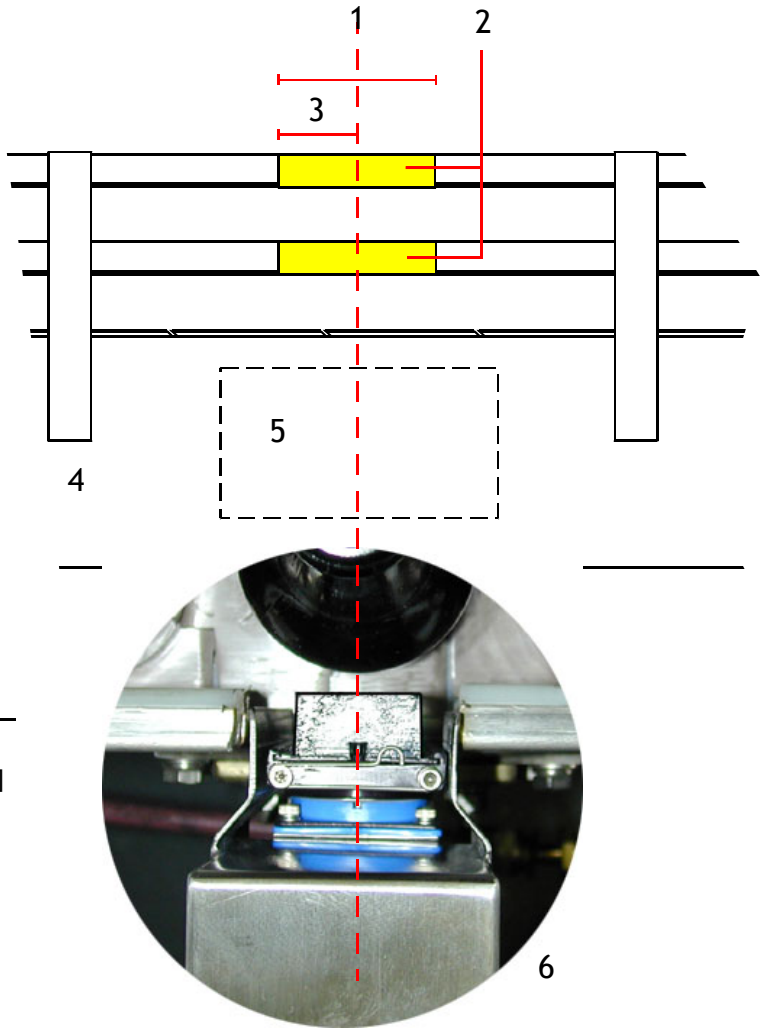
Determine if your conveyor sidewall is tall enough. Your conveyor sidewall must be at least five inches tall to mount the Proline II. If it is not, you will need to create an adapter plate. For more information see Adapter/Stiffener Plate Example on page 2-13.

Determine if your conveyor sidewall is stiff enough to mount the rejector by trying to flex the sidewall with your hand. The wall is stiff enough if you have to exert considerable effort before the sidewall flexes. If your sidewall flexes easily, you should create a stiffener plate and weld or mount it to the conveyor. For more information see Adapter/Stiffener Plate Example on page 2-13.

2.2 Mounting the Rejector

1. Stop the conveyor you will be mounting the rejector on and take all necessary safety precautions to be certain the conveyor will not start while you are working.

2. At the centerline of the area you have chosen to mount the rejector, draw a vertical line on the conveyor side channel using a T-square. This will be the centerline used to align the installation. If guide rails are installed, extend the centerline onto the guide rails.



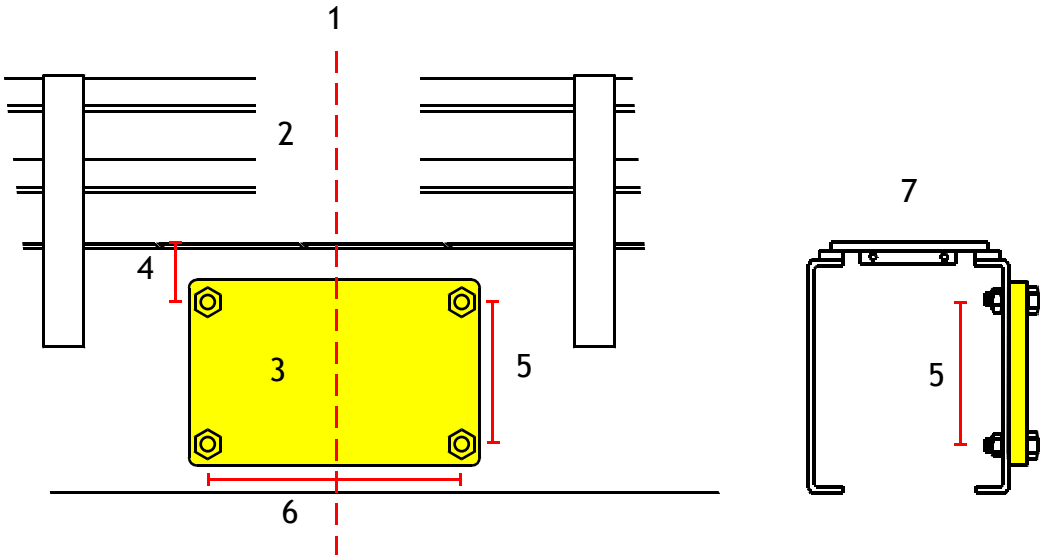
No.	Description
1	Rejector centerline
2	Area to be removed 2.5” [64 mm]
3	Distance from centerline (each side): 1.25” [32 mm]
4	Conveyor sidewall
5	Mounting plate location
6	How Proline II will fit when properly aligned.

Figure 2-1. Marking the centerline and creating an opening in the guide rails.

3. If guide rails are installed, measure and mark 1.25 inches [32 mm] out on each side. This is the opening needed for the rejector. If your guide rails are not adjustable, you must cut the area out to create the 2 inches [64 mm] of space required.

4. Remove the mounting plate attached to the rejector mounting bracket and locate and mark a vertical line down the center of the plate. This is the centerline of the mounting plate.

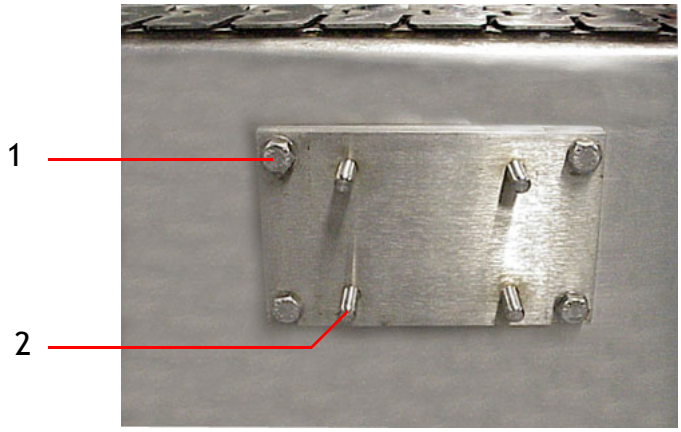
5. Mark and drill the mounting bracket mounting hole locations using a 5/16 inch drill bit and remove any burrs from both sides of the mounting holes. When installed the top of the bracket should be parallel to the surface of the conveyor chain.



No.	Description
1	Centerline
2	Space in rails for rejector head.
3	Mounting Plate
4	Distance from top of conveyor chain is 1.86 in. [47 mm] for cans and 1.36 in. [35 mm] for bottles.
5	Distance between holes is 2.75 in. [70 mm] OC
6	Distance between holes is 5.0 in. [127 mm] OC
7	Side view of mount plate.

Figure 2-2. Attaching and aligning the rejector on the conveyor.

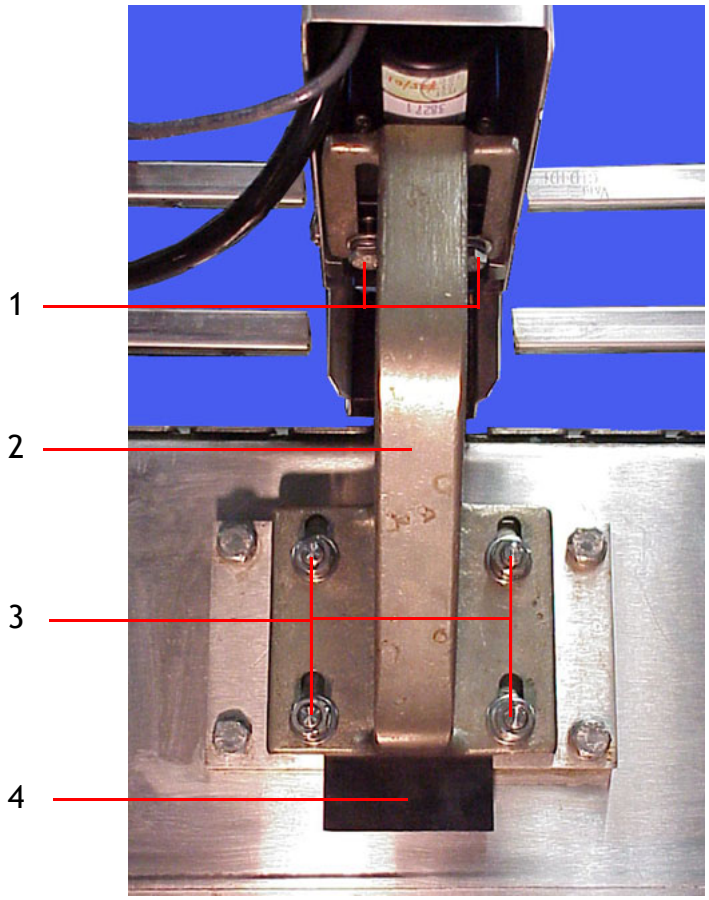
6. Attach the rejector mounting plate to the conveyor side wall using the supplied hardware. Securely tighten all bolts and nuts.



No.	Description
1	Plate Mounting Bolts (4)
2	Mounting studs for Mounting Bracket (4)

Figure 2-3. Proline mounting plate attached to the conveyor.

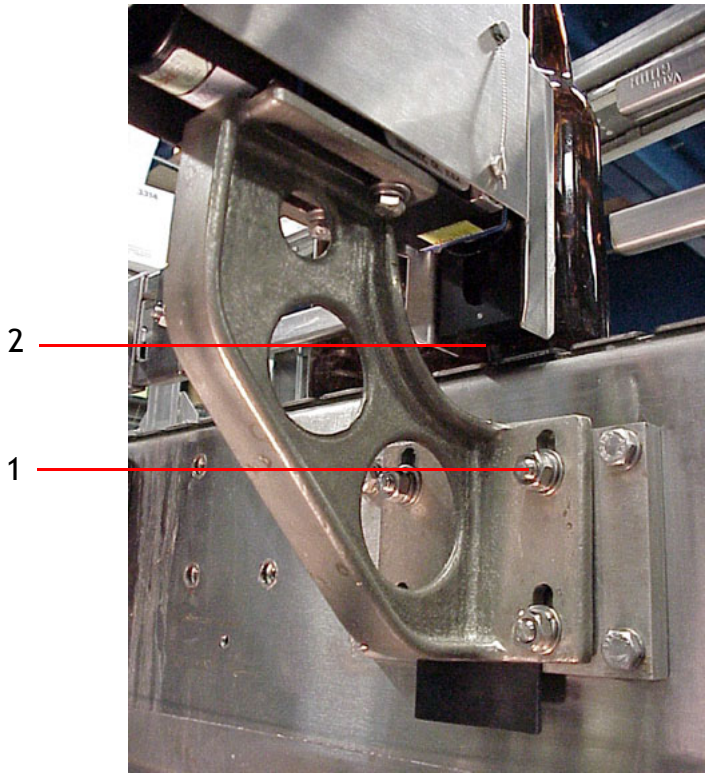
7. Attach the mounting bracket to the mounting plate using the four bolts and washers included in the assembly. Hand tighten the bolts only as you will need to move the bracket to achieve proper alignment in the following steps.



No.	Description
1	Rejector mounting bolts allow in/out adjustment.
2	Mounting Bracket
3	Mounting bracket bolts allow vertical (up/down) adjustment.
4	Angling wedge used to align rejector pad when containers are required to remain standing after rejection.

Figure 2-4. Proline II mounted on the conveyor.

8. Slide the mounting bracket (up or down) so the bottom of the rejector pad is 0.25 inch [6 mm] above the conveyor chain surface and hand-tighten the top two nuts.



No.	Description
1	Loosen 4 nuts to raise or lower rejector height.
2	Bottom of rejector pad should be 0.25 in. [6 mm] above the chain surface.

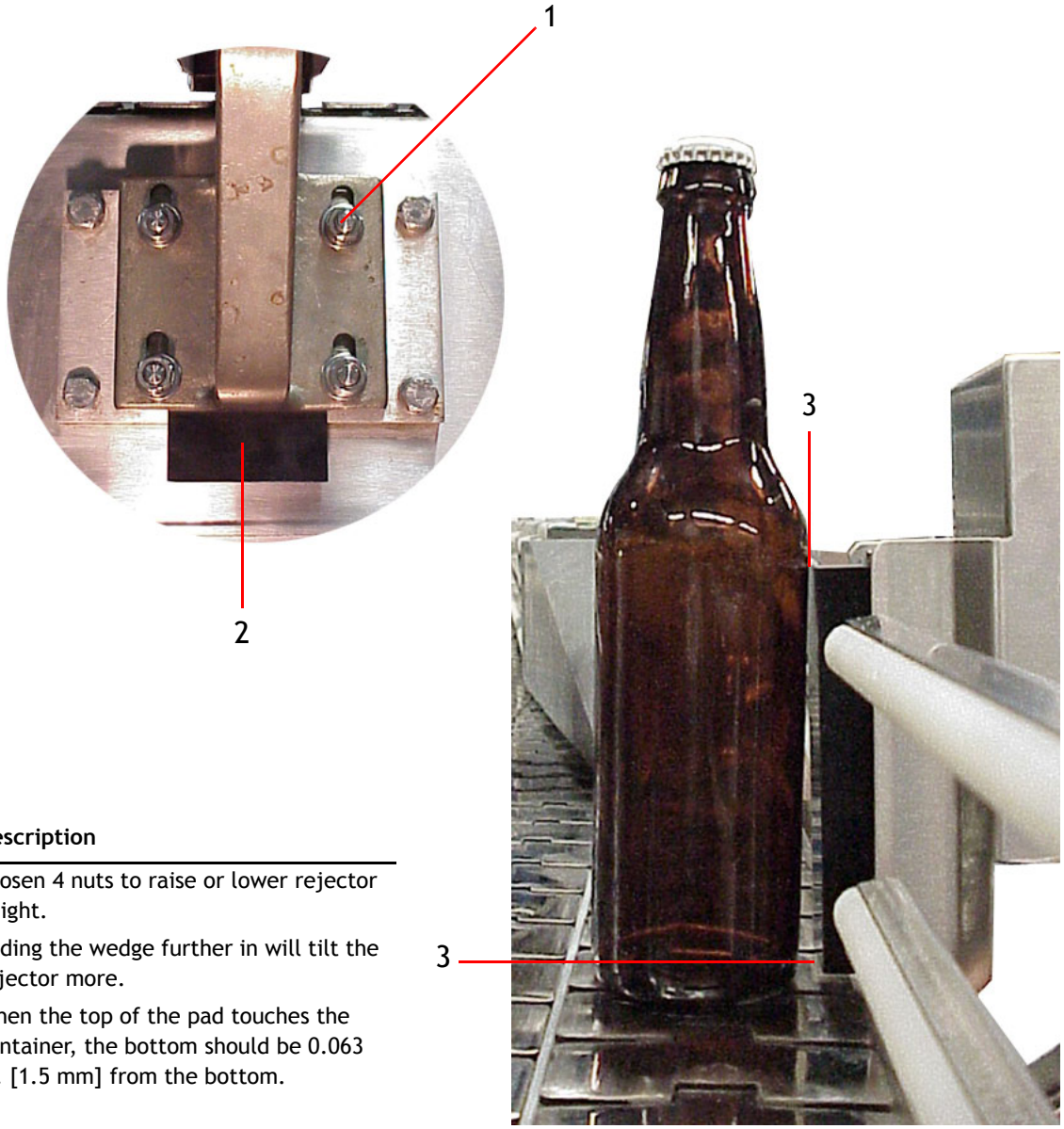
Figure 2-5. Aligning the rejector height.

9. Determine if you want the containers to remain standing after rejection.

   - If you do not require rejected containers to remain standing, verify the rejector is horizontally parallel to the top of the conveyor chain, securely tighten all the mounting bolts, and then proceed to step 13 on page 2-9.
   - If you require rejected containers to remain standing, proceed to step 10 on page 2-7.

10. With the rejector pad in the fully retracted (resting) position, place a container against the front of the pad.

11. Loosen the two bottom rejector bracket mounting nuts and slide the adjustment wedge (up or down) to achieve the proper angle. When correctly positioned, the top of the container should be touching the pad while the bottom does not.



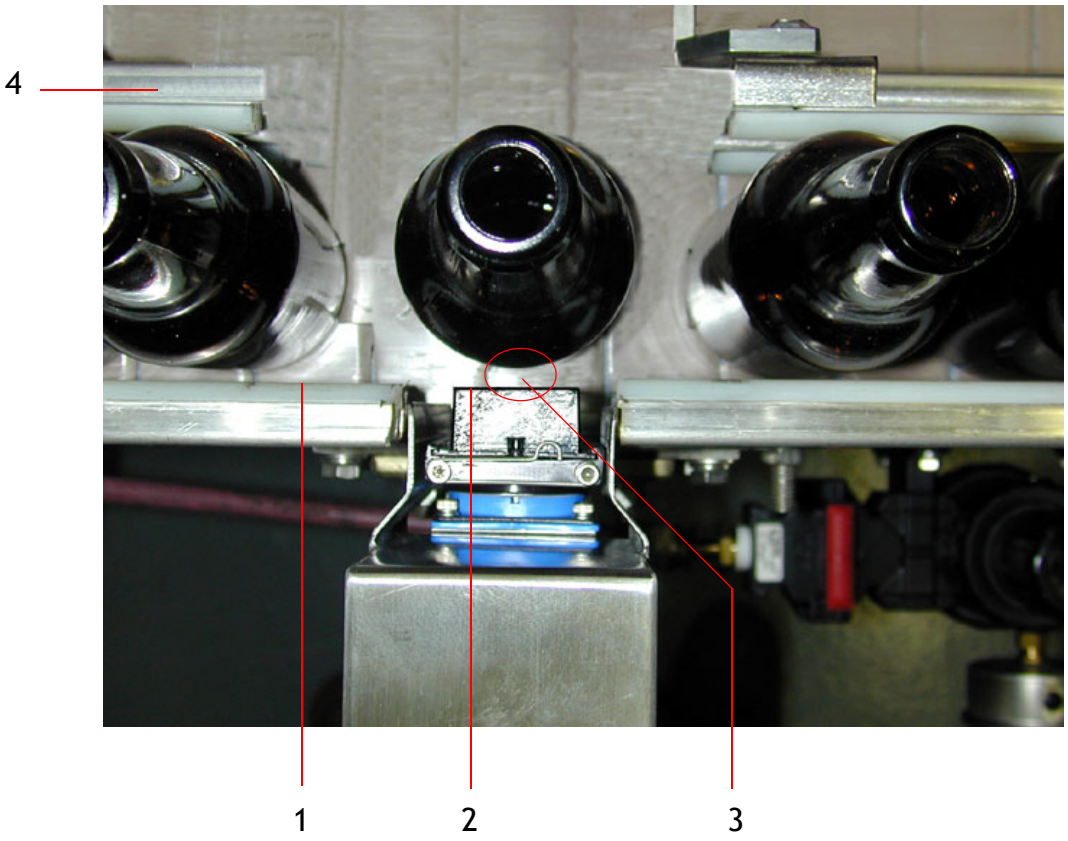
No.	Description
1	Loosen 4 nuts to raise or lower rejector height.
2	Sliding the wedge further in will tilt the rejector more.
3	When the top of the pad touches the container, the bottom should be 0.063 in. [1.5 mm] from the bottom.

Figure 2-6. Aligning the rejector pad to reject containers in an upright position.

12. When you achieve the correct position, securely tighten all mounting hardware.

13. Align the face of the rejector pad with the inside face of the conveyor guide rails by loosening the adjusting screws on the underside of the rejector and sliding the rejector (in or out) until the pad face is flush with the guiderail face or slightly behind it.

Caution: Do not position the rejector pad face beyond the inside face of the guiderails. Containers can contact the pad as they pass creating deflections that can cause a line jam.



No.	Description
1	Inside face of conveyor guiderail.
2	Face of rejector pad is flush with inside face of conveyor guiderail.
3	Distance between bottle and face of rejector pad is maintained.
4	Guiderail opposite rejector sets lane width so containers do not drift out of proper contact range.

Figure 2-7. Align rejector pad face to the inside of guide rail.

14. When you achieve the correct position, securely tighten the adjustment screws.

15. Align the conveyor guiderail opposite from the rejector so that it creates a lane for the container to pass through that is no more than 0.2 inches [5 mm] wider than the container. This limits the sideways motion of the containers so they do not pass too far from the rejector pad face. Ideally the containers should pass between 0.03 and 0.1 inches [0.8 to 2.5 mm] from the from the pad face.

Caution: If you adjust the conveyor rail that is on the same side of the conveyor as the rejector, remember to verify the rejector pad does not protrude past the inside of the conveyor rails.

16. You are now ready to install the air controls for the rejector. For more information see Installing the Air Controls on page 2-11.

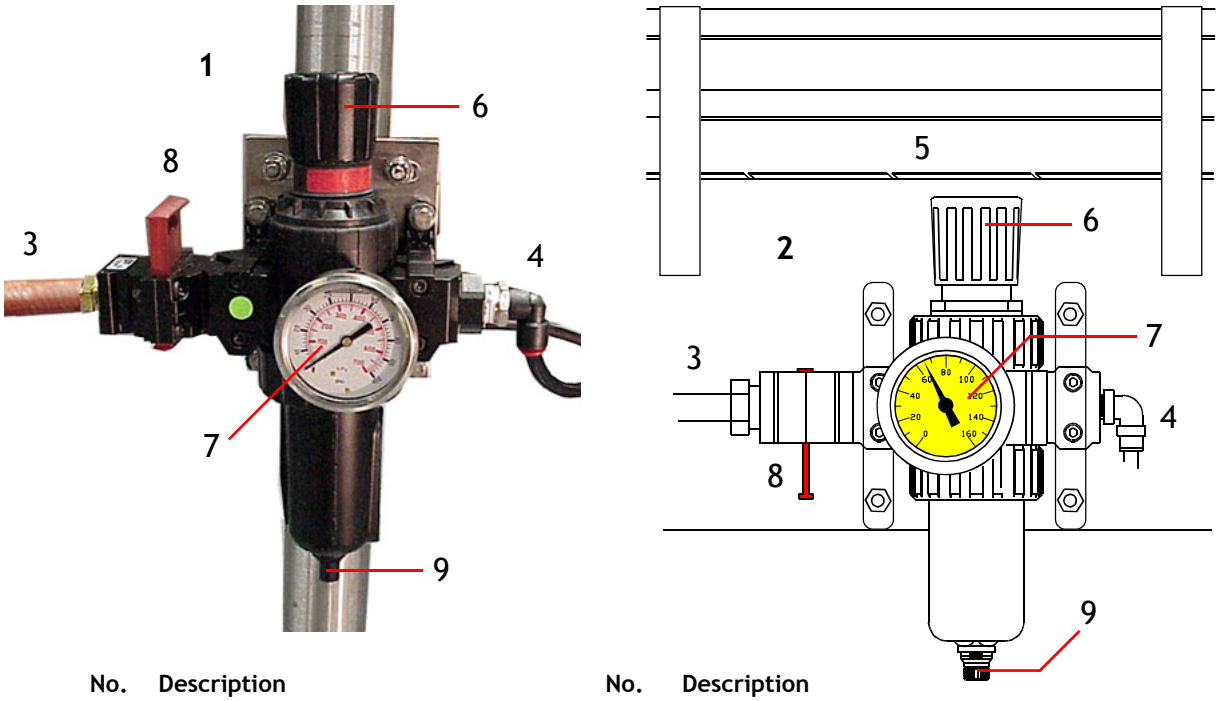
2.3 Installing the Air Controls

After the rejector is aligned correctly and securely mounted, you are ready to install the air controls that provide the pneumatic power to the rejector.

1. Select a mounting location near the rejector. The air controls should be no more than 6 feet from the rejector, and should be positioned low enough on the conveyor side wall so it does not interfere with the conveyor.

   If the air control is equipped with a pipe mounting bracket, you can mount it directly on the vertical pipe of the inspection system or conveyor leg.

2. If you will be mounting directly to the conveyor sidewall, mark and drill the four hole locations. Use a level to be sure the bracket is installed level.



No.	Description	No.	Description
1	Mounted to vertical pipe	6	Pressure adjustment knob
2	Mounted directly to conveyor side wall	7	Pressure gauge
3	Air inlet, 1/4” NTP	8	Emergency Shut-Off
4	Air outlet hose	9	Drain (automatic)
5	Conveyor chain		

Figure 2-8. Installing the rejector air controls.

3. Using the supplied hardware, fasten the air controls to the conveyor side wall or pipe stand.

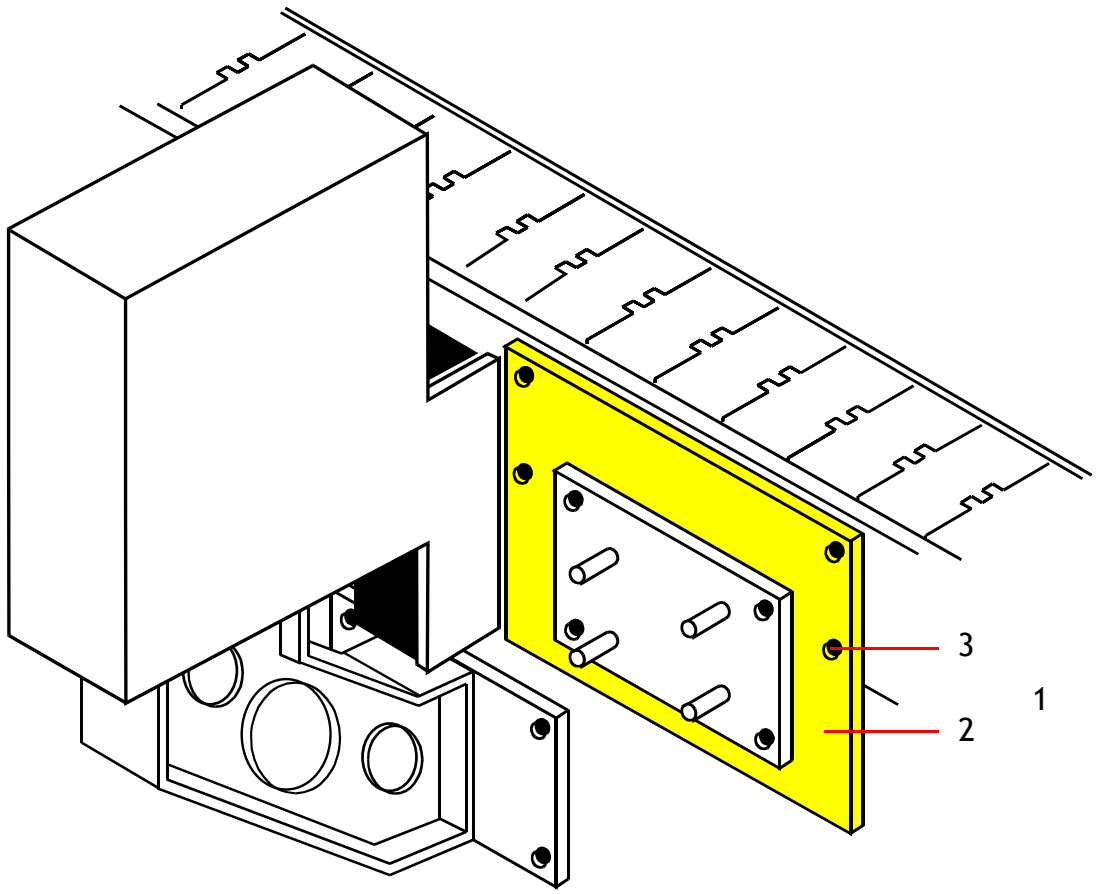
4. Attach the facility air supply hose to the air input connector using a 1/4 inch NTP connector. Cover all fitting threads with fitting compound to prevent air leaks. Do not use Teflon® tape

5. Turn the facility air supply on and set the pressure adjustment to 65 psi as read on the pressure gauge. Verify there are no leaks in the air hoses or hose connectors.

6. You have now completed the physical mounting of the rejector. To complete the installation, proceed to Connecting and Configuring the Proline II on page 3-1.

2.4 Adapter/Stiffener Plate Example

The following illustration provides an example of an adapter plate used to mount the Proline II to a conveyor that has a sidewall less than five inches tall. If your conveyor sidewall is both not tall enough and not stiff enough, a cleverly designed adapter plate can remedy both problems.



No.	Description
1	Conveyor side wall shorter than 5 inches [127mm]
2	Stainless Steel plate should be several inches wider to provide stiffness and tall enough to accommodate rejector mounting plate at proper position.
3	Plate can be welded or bolted to conveyor, however welding provides greater rigidity.

Figure 2-9. Adapter plate/stiffener plate example.

3. Connecting and Configuring the Proline II

This chapter provides specific details for installing and using the Proline II with an FS-30, FT-50, FT-70, and FT-75 inspection system. It includes information on:

- connecting the rejector signal cable.
- verifying the rejector settings in the inspection system software.
- performing a static rejector test to verify the rejector is operational.

This section does not provide information on dynamic testing (also called rejection or encoder calibration). For information- refer to:

- your inspection system manual if you are using any model covered in this document, or
- the Encoder Calibration Procedures if you are using an FT-50 or FT-70. This document does not apply to the FT-75.

3.1 Connecting the Rejector Signal Cable

The rejector signal cable must be connected to the inspection station from which it receives the reject signal.

Warning: Disconnect all electrical power sources form the equipment before attempting any installation procedure. Failure to do so can result in personal injury and equipment damage.

1. Route the cable through the waterproof connector under the inspection head. If your inspection unit is equipped for hazardous environments, route into and connect the cable to the terminal block in the I/O junction box.

No.	Description
1	Reject Signal Cable
2	FT-50/70/75: TB-1 Pins 25 and 26
3	FS-30: TB-1 Pins 23 and 24
4	Waterproof connector on bottom of inspection unit.
5	Signal Cable passed through waterproof connector.

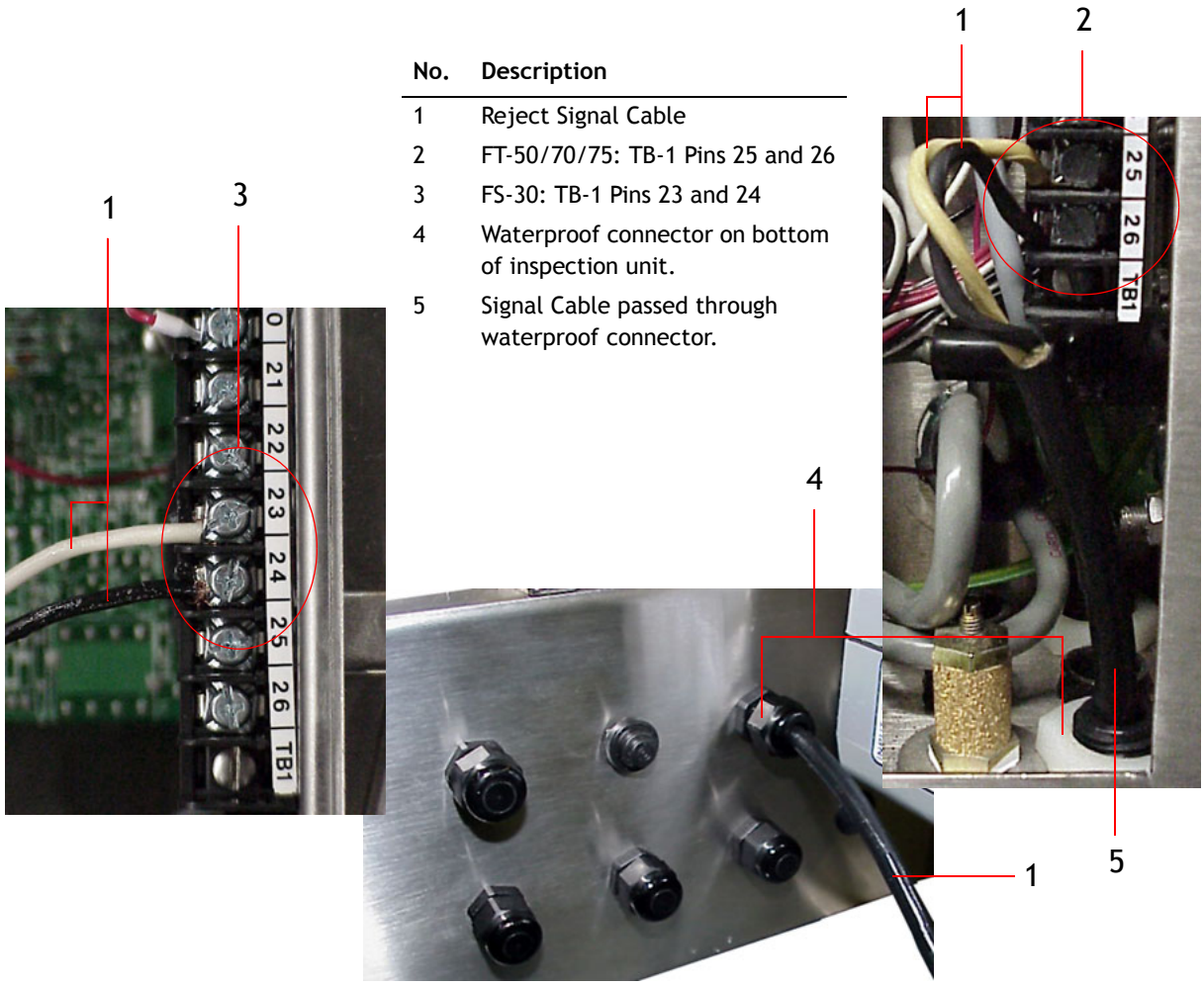


Figure 3-1. Connecting the rejector signal cable.

2. Connect the black and white wires to terminal strip TB1 as explained in the following table.

Wire	FT-50, 70, 75	FS-30
Black	TB1-26	TB1-24
White	TB1-25	TB1-23

3. You are now ready to configure the inspection system software. For more information see Verifying the Software Parameters on page 3-4.

3.2 Verifying the Software Parameters

After your Proline II is completely installed verify the software reject parameters of the inspection unit are configured properly. The software functions that you will be verifying are:

- Rejector Type
- Reject Status
- Pulse Width
- Reaction Delay Offset

Note: If you ordered your Proline II and inspection unit together, the software parameters were programmed at the factory and you should not need to change them.

1. Turn on the inspection system and wait for it to complete its startup sequence.

2. Remove the inspection station electronics enclosure cover and open Dip switch S1-5 on the CPU card.

No.	Description
1	Dip Switch Pack S1
2	DIP switch S1-5

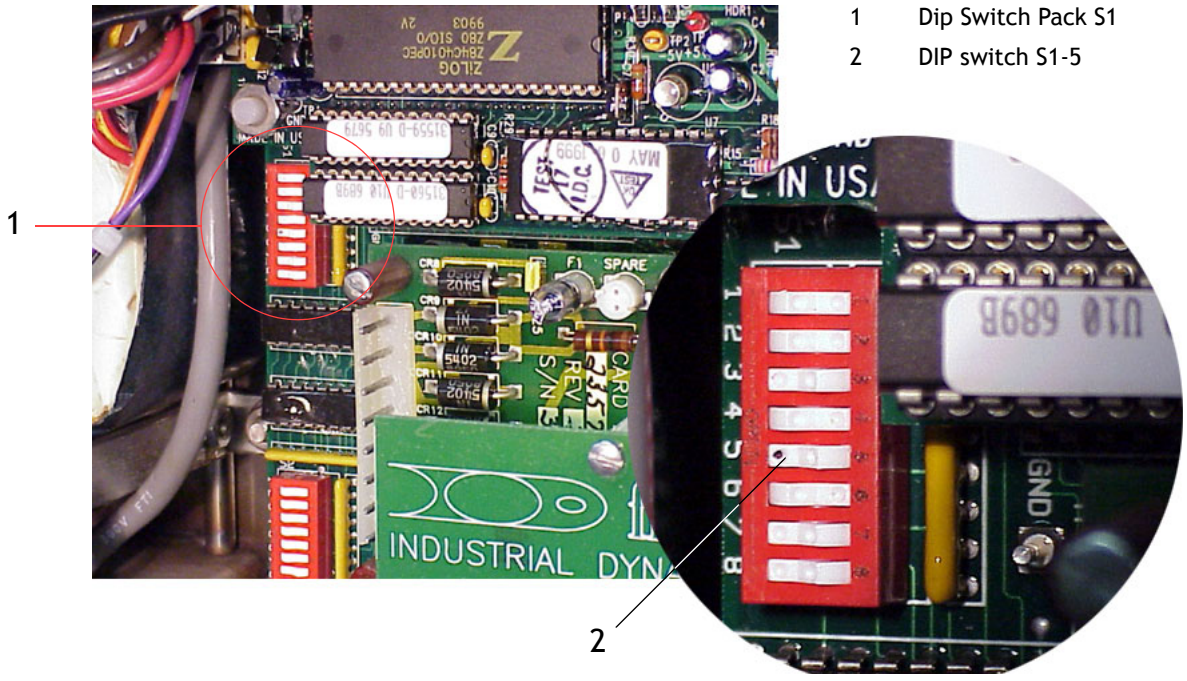


Figure 3-2. Accessing Dip Switch S1-5.

3. Press Key 5 until Rejector Type appears and then press the Arrow Key until H.S. Proline appears. On can only inspection systems this function will not appear, therefore skip this step and proceed.

4. Press Key 5 until Save Default Constants appears and then press the Arrow Key to save the setting.

5. Close Dip switch S1-5.

6. Press Key 5 until System Display appears and then press the Arrow Key until Calibrate appears.

7. If a password is requested, enter 222 (press Key 2 three times). This is the factory default password. If your password has been changed, you will need to enter the new password.

8. Press Key 4 until Reject Status appears. The Reject Status should be On, if not press the Arrow Key.

9. Press Key 4 until Rejector Pulse Width appears.This parameter was set at the factory using the information you provided when you ordered your equipment.

   The table below provides general setting guidelines. Use the Arrow Key to change the value as needed. You may find that you need to adjust this setting during testing.

Container Type	Container Size	Pulse Width
Can	12 ounce	10 ms
Can	16 ounce	11 ms
Can	20 ounce	12 ms
Bottle	12 ounce	22 ms
Bottle	16 ounce	24 ms
Bottle	20 ounce	25 ms
Bottle	33 ounce	26 ms
Bottle	34 ounce or larger, contact IDC support for settings.	

10. Press Key 4 until Fixed RCT Delay Offset appears. The reaction delay should be set to 20 (at 65 PSI) for bottles or 13 (at 65 PSI) for cans. Once set, this parameter does not need to be changed again.

11. Press Key 5 until Save Default Constants appears and then press the Arrow Key to save the configuration. When the save operation is complete Default Constants Saved is displayed momentarily.

12. Open Dip switch S1-5. You are now ready to perform a static test to verify the rejector is operating. For more information see Performing a Static Rejector Test on page 3-7.

3.3 Performing a Static Rejector Test

Static testing helps you verify the rejector is installed correctly and operational. The goal is to verify the rejector can push the container into the reject area (or onto the reject conveyor). This test is performed with the conveyor stopped.

Some issues to be aware of during static testing are:

- During static testing lubricating the area of the conveyor chain surface in front of the rejector with soapy water helps reduce friction, if the chain is normally lubricated
- The static test is used to evaluate the operational status of the rejector, not the rejection synchronization which will be evaluated during dynamic testing.

Note: Verify the air supply is turned on and the rejector air control pressure is set to 65 PSI or the rejector will not function.

1. Place a typical production container in front of the rejector. Try to approximate the position the container would be in if the conveyor was moving: the container should be centered in front of the rejector pad and approximately 1/8 inch (2.98 to 3.08 mm) from the face of the rejector pad.

2. Press Key 4 until Fire Rejector on Demand appears and then press the Arrow Key to fire the rejector. The rejector will immediately activate, knocking the container from the production conveyor and into the reject area.

3. Verify the container is rejected completely onto the reject conveyor or into the reject bin or chute. Repeat the test several more times to verify the results are consistent.

4. If the rejector performed as expected, the installation and operation verification are complete. You are now ready to begin encoder calibration.

   - If you are using an FS-30/FSRC, FT-50, or FT-70 refer to the Encoder Calibration Procedures or refer to your inspection system manual for further information.
   - If you are using an FT-75, refer to your inspection system manual for further information.

   If the rejector did not perform as expected do the following:

   - Verify the rejector air supply is on and the rejector air control pressure is set to 65 PSI.
   - Verify the software reject parameters are set correctly. For more information see Verifying the Software Parameters on page 3-4.
   - If you expected the container to remain standing after rejection but it falls, verify the receiving area is not higher than the reject chain and then adjust the tilt of the rejector pad. For more information see Mounting the Rejector on page 2-3.
   - Check the rejector signal cable wiring to verify the cable is wired correctly and is not damaged.
   - Call IDC Customer Service for assistance, if you can not correct the problem.

4. Proline II Maintenance and Troubleshooting Procedures

This chapter provides information that will help you solve common problems that can occur with the rejector. It also includes basic maintenance procedures and schedules required to maintain the performance of your rejector.

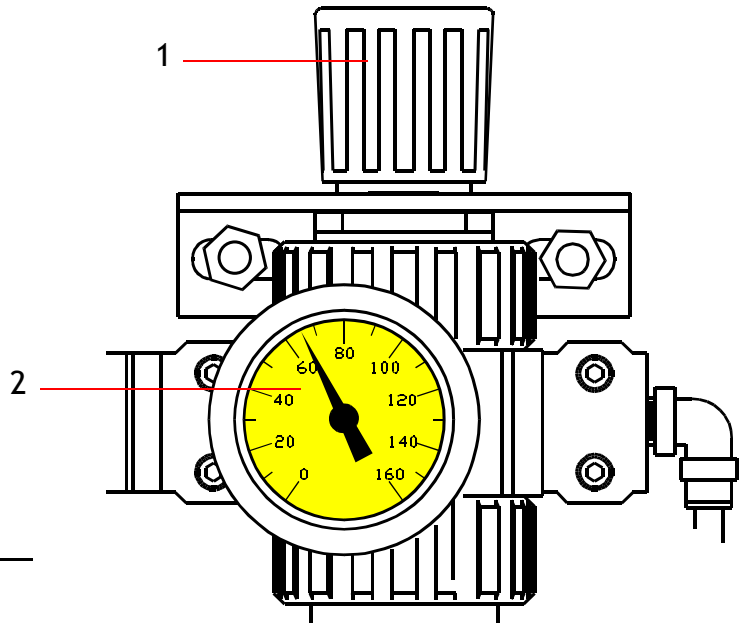
4.1 Maintenance Checklist

The following table provides a checklist of daily, weekly, and monthly maintenance procedures. Procedures should only be performed by qualified personnel. For more information see Maintenance Procedures on page 4-3..

Procedure	Daily	Weekly	Monthly
Verify the air pressures gauge is set to 65 PSI.	✔		
Verify the air filter and accumulator sediment bowl are functioning properly.	✔		
Inspect the rejector pad for wear and replace if necessary.		✔	
Inspect all mounting hardware to verify it is secured.		✔	
Verify the guide rail positions have not moved and hardware is secure.		✔	
Inspect the rejector housing, pad shoe, and all signal cables for damage.			✔

Setting the Rejector Air Pressure

1. While viewing the air regulator pressure gauge, turn the pressure adjustment knob until the pressure gauge indicates 65 PSI.



No.	Description
1	Pressure Adjustment Knob
2	Pressure Gauge @ 65 PSI

Figure 4-1. Setting the Rejector Air Pressure.

2. If the pressure gauge is cracked or operating erratically, contact your service department for replacement.

Checking the Air Controls are Operating Correctly

1. Look at the sediment bowl of the air controls and make certain it is not cracked or damaged. If it is damaged, contact your service department for replacement.

No.	Description
1	Sediment Bowl/Accumulator
2	Drain/ Drain Button

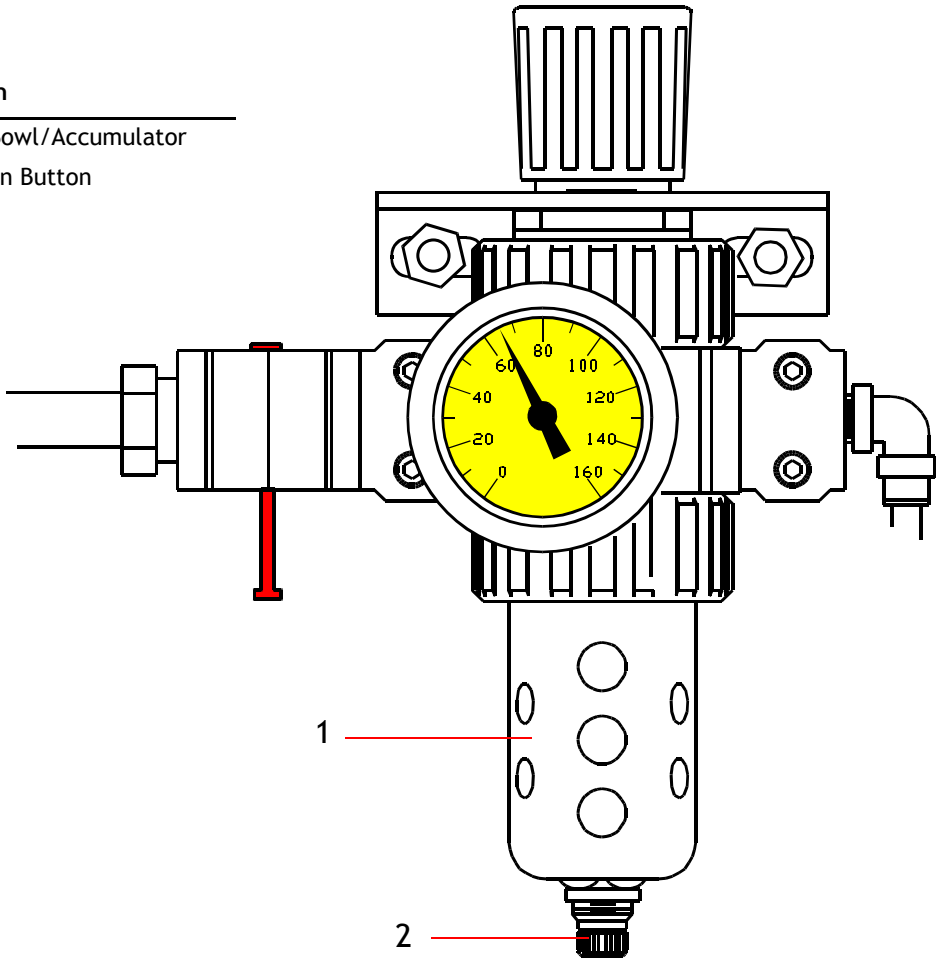


Figure 4-2. Checking the Air Controls are Operating Correctly.

2. Check the sediment bowl to verify it is draining properly. The bowl should have very little water in the bottom.

3. Press the drain button on the bottom of the bowl and hold until all water drains. If the drain is plugged, contact your service department to clean it.

Replacing the Rejector Pad

1. Turn the air supply off so that air is not reaching the Proline II.

No.	Description
1	Air Shut-off
2	Pressure Gauge
3	Pressure Adjustment Knob

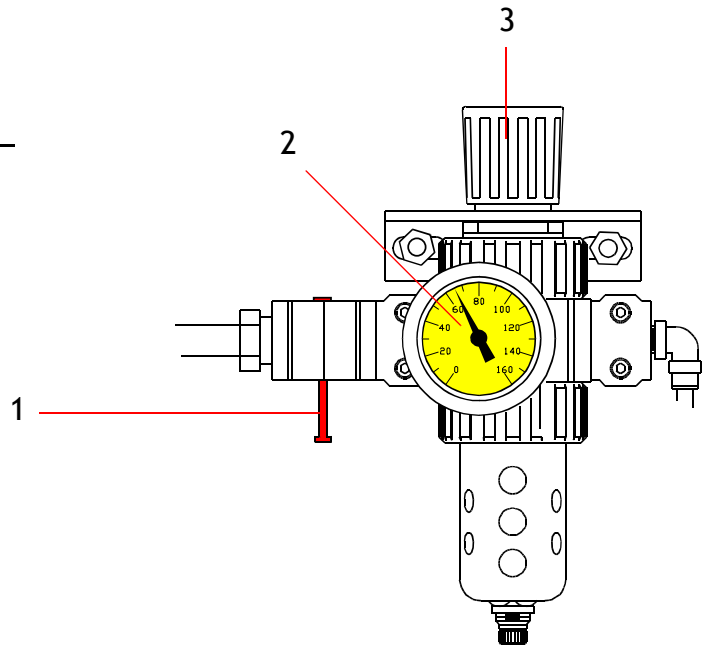
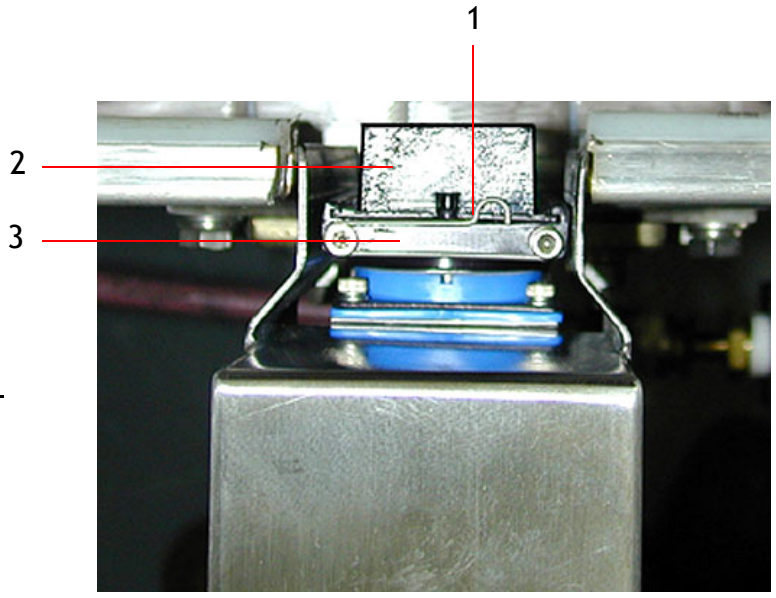


Figure 4-3. Shut off the Air to the Rejector.

2. Pull the pad retaining clip back and slide the pad up and out.



No.	Description
1	Pad Retaining Clip
2	Pad
3	Pad Shoe

Figure 4-4. Removing/inserting the Rejector Pad

3. Check the pad shoe screws are secure and tighten if necessary.

4. Clean the shoe and rejector rod if necessary by wiping them down with a damp cloth.

5. Pull the pad retaining clip back and slide the new pad down and completely into the pad shoe until the retain clip snaps into position.

6. Turn the air supply on and verify the setting is at 65 PSI.

Inspect the Rejector

1. Inspect the rejector housing, pad shoe, and all signal cables for damage.

2. Verify all cable connections are secure and the cables are not hanging or loose

Inspect all Mounting Hardware

Inspect all rejector mounting hardware and brackets to verify they are secure and are in proper alignment. For more information see Mounting the Rejector on page 2-3.

Inspect the Conveyor Guiderails

Inspect the conveyor guiderails to verify they are secure and are in proper alignment. For more information see Mounting the Rejector on page 2-3.

4.3 Troubleshooting

This troubleshooting section only addresses common rejector hardware problems. For more detailed rejection problems, refer to the technical reference manual included with your inspection system.

Before you attempt any diagnostic or troubleshooting procedure:

- Read and understand the procedure thoroughly
- Understand and comply with all safety precautions
- If the problem cannot be resolved from the information in this chapter, contact IDC Customer Service for assistance.

The Rejector does not Activate

1. Check the air controls pressure gauge and verify it is turned on and set at 65 PSI.

2. Verify the inspection system to which the rejector is connected is turned on.

3. Verify the Rejector Status is turned on in the inspection system software and then use the Fire Rejector function to manually activate the rejector.

4. Check the rejector signal cable to be sure it is not disconnected or damaged.

5. If your system uses a reject trigger sensor verify it is aligned properly. If it is set too high it will miss the containers.

Rejector does not Push the Container far Enough

1. Check the air controls pressure gauge and verify it is set at 65 PSI.

2. The conveyor chain may need to be cleaned. Often build up of lubricant on the chain can make the chain sticky and interfere with rejection.

3. Check to be sure the lubricating system is lubricating the rejection area sufficiently.

4. There has been a change in the container type being inspected and the rejector pulse width must be adjusted to compensate for the heavier container.

Bottles Fall Over When Rejected

If you want the bottles to remain standing when rejected, but are experiencing problems, try the following:

1. The rejector angle is not set correctly. For more information see Mounting the Rejector on page 2-3.

2. The conveyor surface is not smooth enough, or is not sufficiently lubricated for the container base to overcome the surface friction.For more information see Conveyor Requirements on page 1-3.

3. The pulse width is set too high. Lower the pulse width slightly. For more information see Verifying the Software Parameters on page 3-4.

4. The container type is not suitable for standing rejection and cannot be rejected in a standing position. Any questionable container type should be sent to IDC for evaluation.

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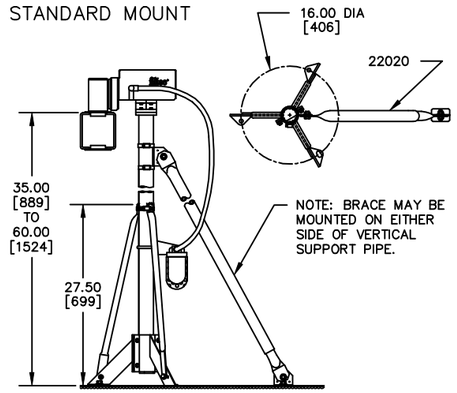
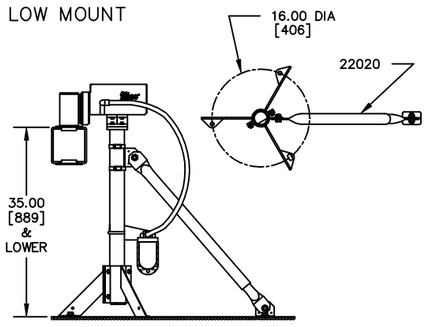
I-00378 | 6

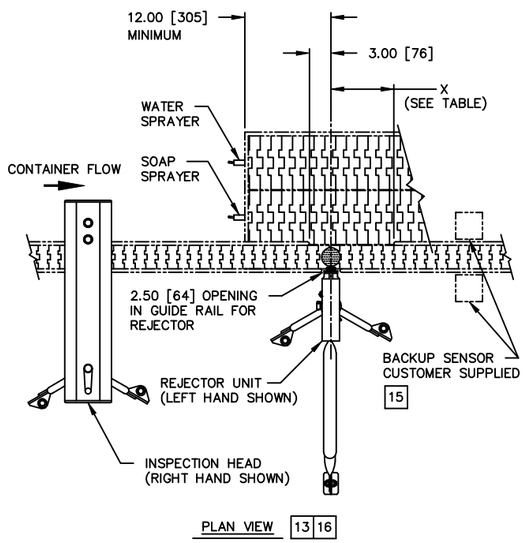
REV NO.	REVISIONS	DATE	DRAFTER	APPR	APPR	APPR
6	SEE DCR FOR CHANGES.	4/25/98	DZ	IR	DMG	

STANDARD MOUNT



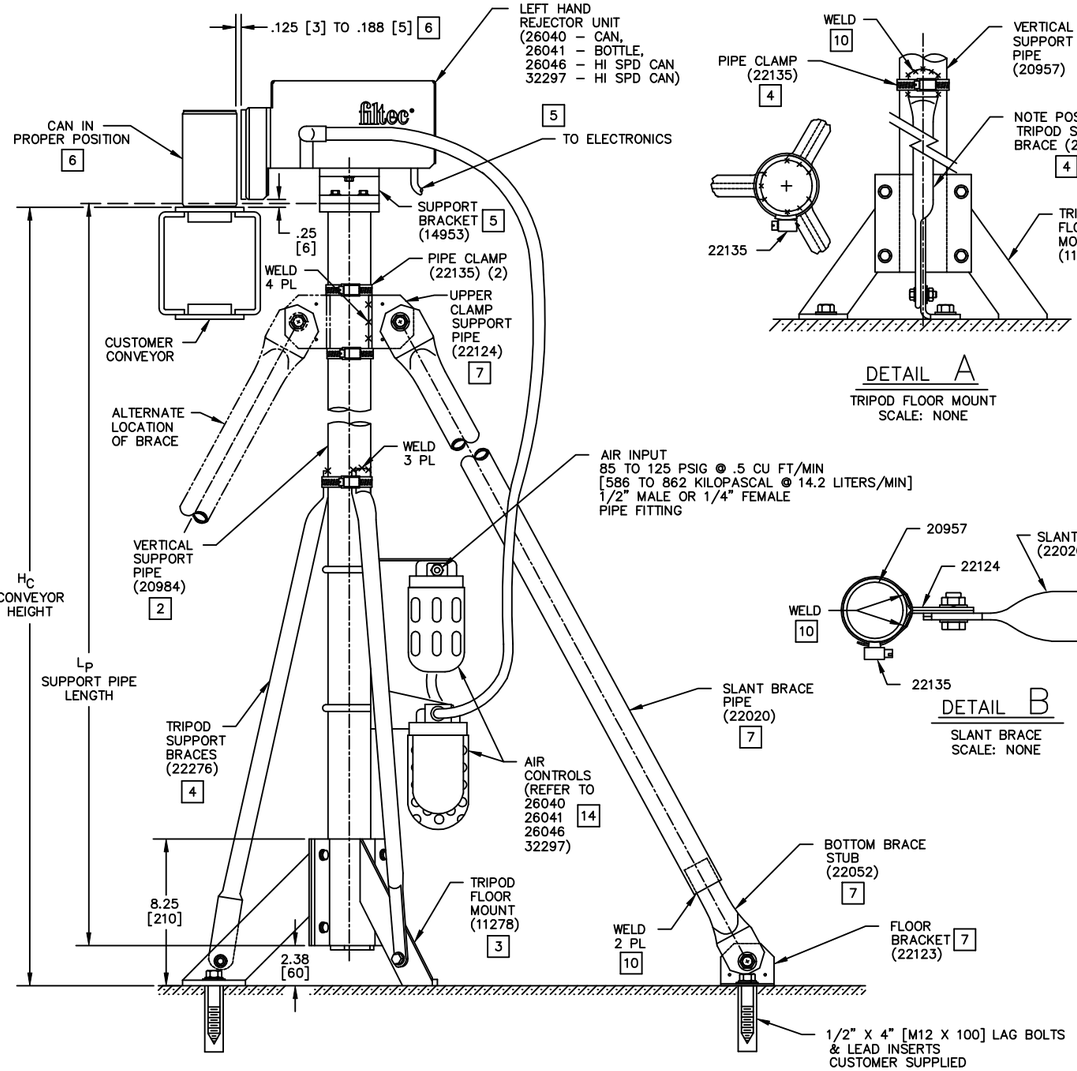
LOW MOUNT





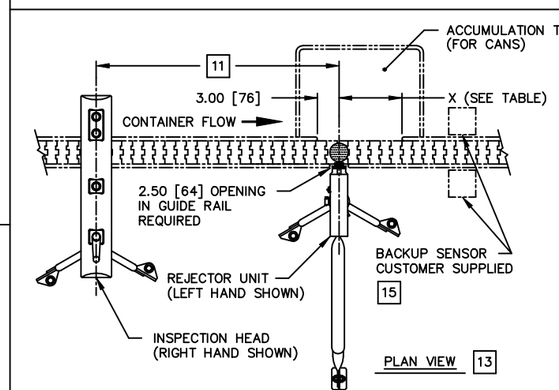
PLAN VIEW 13 16

NOTES: UNLESS OTHERWISE SPECIFIED



DETAIL A
TRIPOD FLOOR MOUNT
SCALE: NONE

DETAIL B
SLANT BRACE
SCALE: NONE



PLAN VIEW 13

CANS/BOTTLES PER MINUTE	PLAN VIEW DIMENSION "X"
500	5.00 [127]
750	7.50 [191]
1000	10.00 [254]
1250	12.50 [318]
1500	15.00 [381]
1750	17.50 [445]
2000	20.00 [508]
2250	22.50 [572]

INSTALLATION DRAWING

PROLINE IMPULSE RAM REJECT SYSTEM, TRIPOD FLOOR MOUNT

15 A CUSTOMER SUPPLIED BACKUP SENSOR MUST BE MOUNTED DOWNSTREAM TO PREVENT PRODUCT BACKUPS THROUGH THE SYSTEM.

16 A SECOND 7.50 [191] TAKEAWAY CONVEYOR AND WATER SPRAYER IS REQUIRED FOR INSTALLATIONS RUNNING ABOVE 100 FEET [30.48 METERS] PER MINUTE.

MOUNTING INSTRUCTIONS

1. ALL PARTS AND FASTENERS (EXCEPT THE LAG BOLTS AND LEAD INSERTS FOR FLOOR MOUNTING) THAT ARE NECESSARY TO INSTALL THE REJECTOR UNIT ARE SUPPLIED WITH THE SYSTEM. IF PARTS ARE MISSING, PLEASE CONTACT CUSTOMER SERVICE AT THE FACTORY :PHONE 310/325-5633 OR TELEFAX 310/530-1000

2 THE VERTICAL SUPPORT PIPE (20984) MUST BE CUT TO THE PROPER LENGTH. AT THE LOCATION WHERE THE REJECTOR UNIT WILL BE INSTALLED, MEASURE THE HEIGHT FROM THE TOP OF THE CONVEYOR CHAIN TO THE FLOOR (H_C). THE FORMULA FOR CUTTING THE PIPE IS: $L_P = H_C - 2.5"$ [64] CUT PIPE TO L_P

3 ASSEMBLE TRIPOD FLOOR MOUNT (11287) USING FOUR 3/8-16 X 1" HEX HEAD BOLTS WITH FLAT, AND LOCK WASHERS. LEAVE BOLTS LOOSE ENOUGH SO THERE IS SUFFICIENT CLEARANCE TO SLIP THE BOTTOM OF THE VERTICAL SUPPORT PIPE INTO THE CLAMPING FLANGE ON THE TRIPOD.

4 PLACE THE PROPERLY CUT SUPPORT PIPE IN THE TRIPOD FLOOR MOUNT. IF REQUIRED, INSTALL THE THREE TRIPOD SUPPORT BRACES (22276) USING THREE 5/16-18 X 1" BOLTS AND HARDWARE. TIGHTEN FINGER TIGHT. BE SURE THE BRACES ARE ON THE PROPER SIDE OF THE TRIPOD FLOOR MOUNT (AS SHOWN IN DETAIL A). MOUNT PIPE CLAMP (22135) AS SHOWN TO HOLD THE THREE BRACES AT THE TOP. SHIFT THE VERTICAL SUPPORT PIPE AS REQUIRED UNTIL IT IS VERTICAL WITH RESPECT TO THE FLOOR. TIGHTEN CLAMP ENOUGH TO HOLD THE ASSEMBLY IN PLACE.

5 REFER TO DRAWING 26040, 26041, 26046 OR 32297 IN THE MANUAL. REMOVE THE COVER FROM THE PROLINE REJECTOR ASSEMBLY AND MOUNT THE PROLINE REJECTOR AND SUPPORT BRACKET (14953) ON TOP OF THE SUPPORT PIPE USING THE PROPER HARDWARE. TWO 1/4-20 X 3/4" BOLTS, NUTS, FLAT, AND LOCK WASHER ARE USED TO MOUNT THE SUPPORT BRACKET TO THE BOTTOM OF THE PROLINE REJECTOR. TWO 5/16-18 X 1" BOLTS, NUTS, FLAT, AND LOCK WASHERS ARE USED TO MOUNT THE SUPPORT BRACKET TO THE TOP OF THE SUPPORT PIPE. POSITION THE PROLINE REJECTOR ASSEMBLY SO IT IS IN THE MIDDLE OF THE SLOTS ON THE SUPPORT BRACKET BOTH PARALLEL AND PERPENDICULAR TO THE RAM EXTENSION DIRECTION. TIGHTEN BOLTS FINGER TIGHT.

6 POSITION THIS ENTIRE ASSEMBLY WITH RESPECT TO THE CONVEYOR SO THE RAM PAD IS LOCATED .125 TO .188 [3 TO 5] FROM THE SIDE OF A CAN THAT IS PLACED ON THE CENTERLINE OF THE CONVEYOR CHAIN. THE BOTTOM OF THE RAM PAD SHOULD BE APPROXIMATELY .25 [6] ABOVE THE TOP OF THE CONVEYOR CHAIN. IF NOT, ADJUST THE VERTICAL SUPPORT PIPE IN THE TRIPOD FLANGE FOR PROPER HEIGHT. TIGHTEN THE FOUR BOLTS IN THE BOTTOM OF THE TRIPOD MOUNT TO SECURE THE SUPPORT PIPE. WHEN THE RAM PAD IS PROPERLY POSITIONED, MARK POSITIONS OF THE TRIPOD FLOOR MOUNT MOUNT HOLES ON THE FLOOR. MOVE UNIT AND DRILL HOLES IN THE FLOOR FOR MOUNTING LEAD INSERTS. PLACE INSERTS IN HOLES AND SET TRIPOD IN PLACE. INSERT AND FIRMLY TIGHTEN LAG BOLTS. (CUSTOMER SUPPLIED 1/2" X 4" [M12 X 100] LAG BOLTS AND LEAD INSERTS REQUIRED).

7 POSITION OF SLANT BRACE (22020) MUST BE DETERMINED TO SUIT THE INSTALLATION. IT MUST BE POSITIONED IN LINE WITH THE RAM STROKE FOR RIGIDITY PURPOSES. BRACE MAY BE INSTALLED ON EITHER SIDE OF THE VERTICAL SUPPORT PIPE, DEPENDING UPON CLEARANCE WITH THE CONVEYOR AND OTHER LOCAL OBJECTS. WHEN THE PROPER LOCATION OF THE BRACE IS ESTABLISHED, CUT OFF THE BOTTOM OF THE SLANT BRACE PIPE (22020) TO REQUIRED LENGTH, LEAVING APPROXIMATELY 1.50 [38] TO SLIP OVER OUTSIDE OF BOTTOM BRACE STUB (22052). IF NECESSARY, SAND THE OUTSIDE OF THE BOTTOM BRACE STUB SO IT FITS INSIDE THE SLANT BRACE PIPE.

LOCATE THE FLOOR BRACE BRACKET (22123) ON THE FLOOR AND FIRMLY FASTEN IT WITH TWO 1/2" X 4" [M12 X 100] LAG BOLTS INTO LEAD FLOOR INSERTS. (CUSTOMER SUPPLIED)

POSITION UPPER BRACE SUPPORT BRACKET (22123) ON THE TOP PORTION OF THE VERTICAL SUPPORT PIPE AND TEMPORARILY HOLD IT IN PLACE WITH TWO PIPE CLAMPS (22135).

BOLT THE UPPER BRACE PIPE (22020) TO THE UPPER BRACE SUPPORT BRACKET (22124) USING 1/2-20 X 1" BOLTS, NUTS, LOCK WASHERS AND WASHERS.

INSERT THE BOTTOM BRACE STUB (22052) INTO THE SLANT BRACE PIPE AND BOLT IT TO THE FLOOR BRACKET (22123) USING 1/2-20 X 1" BOLTS, NUT, LOCK WASHER AND WASHERS.

8 CHECK THE ALIGNMENT OF ENTIRE SYSTEM. THE SUPPORT PIPE SHOULD BE VERTICAL AND THE BOTTOM OF THE RAM PAD POSITIONED .25 [6] ABOVE THE TOP OF CONVEYOR CHAIN AND .125 [3] TO .188 [5] FROM SIDE OF CAN SETTING ON CENTERLINE OF CONVEYOR CHAIN. MAKE FINAL ADJUSTMENTS AS REQUIRED BY ADJUSTING RAM REJECTOR ASSEMBLY IN THE SLOTS OF SUPPORT BRACKET.

9. WHEN THE REJECTOR UNIT IS PROPERLY POSITIONED, FIRMLY TIGHTEN ALL HEX HEAD BOLTS, LAG BOLTS IN FLOOR, AND PIPE CLAMPS.

10 WHEN IT IS ASSURED THAT THE REJECTOR UNIT IS MOUNTED IN THE PROPER POSITION, TACK WELD THE FOLLOWING COMPONENTS: THE TOPS OF THE THREE TRIPOD SUPPORT (IF USED) BRACES (22276) AS SHOWN IN DETAIL A, THE TABS OF THE SLANT BRACE SUPPORT BRACKET (22124) TO THE VERTICAL SUPPORT PIPE AS SHOWN IN DETAIL B, AND THE JUNCTION OF THE SLANT BRACE PIPE AND BOTTOM BRACE STUB. AFTER WELDING, REMOVE PIPE CLAMPS AND DISCARD.

11 WHEN USED WITH THE FT-50 INSPECTION SYSTEM, THE REJECTOR UNIT MAY BE UP TO FOUR (4) CONTAINERS DOWNSTREAM OF THE INSPECTION HEAD CENTERLINE (OR THIRTY TWO (32) CONTAINERS WITH ENCODER).

12. LEFT HAND REJECTOR SHOWN. HAND MAY BE REVERSED.

13 ACCUMULATION TABLE OR TAKEAWAY CONVEYOR MUST BE .031 [.8] BELOW PRODUCTION CHAIN SURFACE.

14 FILL MIST OILER WITH 5 WT NON-DETERGENT OIL (IDC P/N 00177)

ITEM NO.	NO. REQ'D	PART NUMBER	DESCRIPTION	REMARKS

UNLESS SPECIFIED: DIMENSIONS ARE IN INCHES. BREAK SHARP EDGES .005-.015. FINISH: 125 MU INCHES MAX. REMOVE BURRS. DO NOT SCALE DRAWING. MACHINE TOLERANCES: .XXX ±.005, .XX ±.015, ANGULARITY ±0° 30'

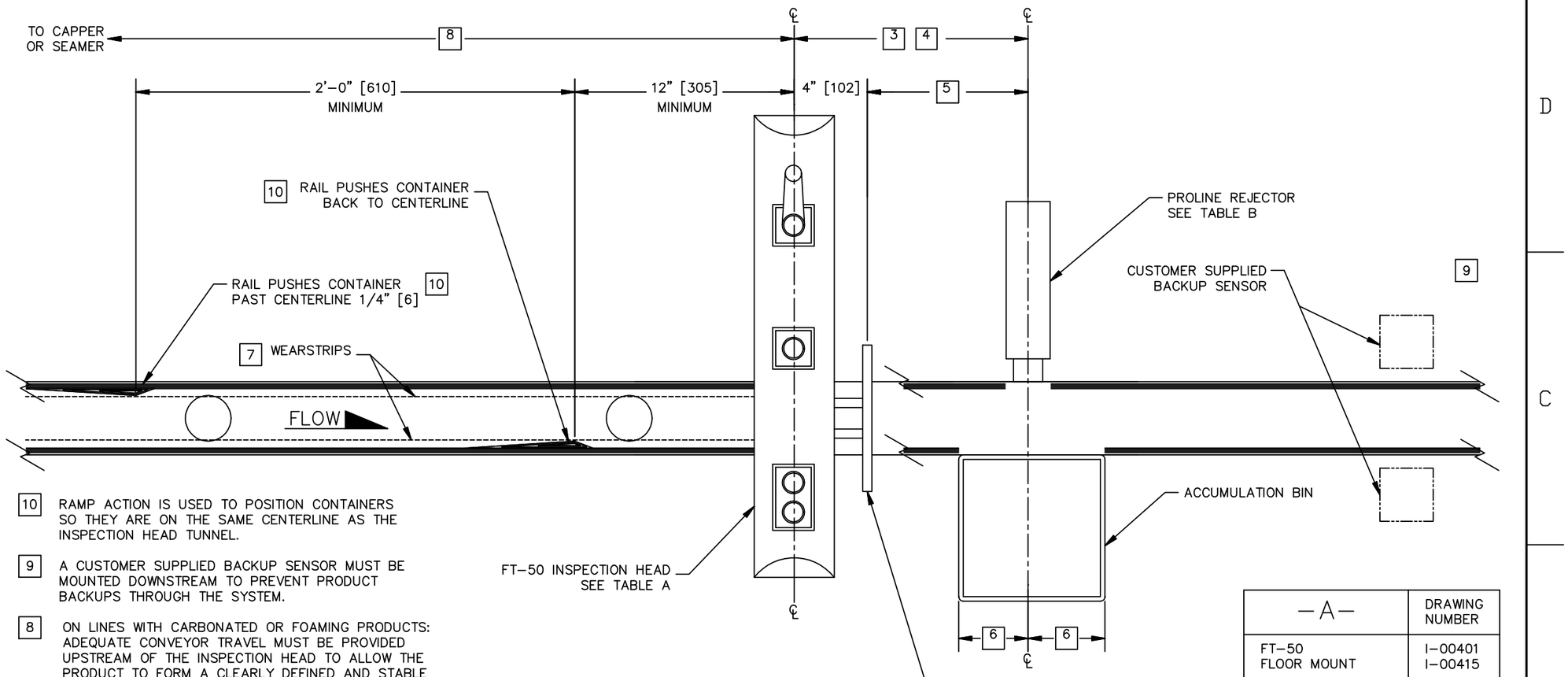
INDUSTRIAL DYNAMICS CO., LTD.
TORRANCE, CALIFORNIA

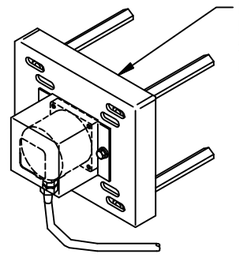
ID,PRO RJ,TRIPOD FL MT

DRAFTER	HAL LOHR	DATE 3/30/88	CAD AVAILABLE	MATERIAL	FINISH
DESIGNER	F. CALHOUN	DATE 4/1/88	MAKE FROM		
APPR	RAY POLIZZI	DATE 4/1/88	USED ON		NO. REQ. PER UNIT
APPR		DATE	RELEASED 4/1/88 RAY POLIZZI	DATE	SCALE NONE
APPR		DATE			DWG. NO. I-00378

i-00510	0

REV NO.	REVISIONS	DATE	DR	CHK	APP





REMOTE ENCODER KIT
PART NUMBER 24970.
SEE DRAWING I-00484
FOR PROPER INSTALLATION

10 RAMP ACTION IS USED TO POSITION CONTAINERS SO THEY ARE ON THE SAME CENTERLINE AS THE INSPECTION HEAD TUNNEL.

9 A CUSTOMER SUPPLIED BACKUP SENSOR MUST BE MOUNTED DOWNSTREAM TO PREVENT PRODUCT BACKUPS THROUGH THE SYSTEM.

8 ON LINES WITH CARBONATED OR FOAMING PRODUCTS: ADEQUATE CONVEYOR TRAVEL MUST BE PROVIDED UPSTREAM OF THE INSPECTION HEAD TO ALLOW THE PRODUCT TO FORM A CLEARLY DEFINED AND STABLE LINE BETWEEN LIQUID AND FOAM. TYPICALLY 5 TO 7 SECONDS OF CONVEYOR TRAVEL FROM A MAJOR DISTURBANCE: SEAMER, CAPPER OR CROWNER; AND 3 TO 5 SECONDS FROM A MINOR DISTURBACE: COMBINER, TRANSFER, OR CURVE.

7 FASTEN WEARSTRIPS AT UPSTREAM END ONLY.

6 FOR PROPER SPACING REFER TO APPROPRIATE PROLINE INSTALLATION.

5 MINIMUM DISTANCE IS 2 CONTAINER DIAMETERS.

4 FOR ZERO SPEED OPERATIONS, ENCODER KIT 24970 IS REQUIRED. WITH ENCODER KIT, THE DISTANCE FROM INSPECTION HEAD TO RAM CAN BE INCREASED FROM 4 TO 32 CONTAINER DIAMETERS.

3 MINIMUM DISTANCE OF 7" [178] OR 2.5 CONTAINER DIAMETERS, WHICH EVER IS GREATER. IF BULGED CAN/HIGH CAP OPTION IS USED, SEE NOTE #5. MAXIMUM DISTANCE RECOMENDED IS 4 CONTAINERS DOWNSTREAM OF THE INSPECTION HEAD TRIGGER.

2. LEFTHAND INSPECTION AND RIGHTHAND REJECTION SHOWN.

1. DIMENSIONS ARE IN INCHES [MILLIMETERS].

NOTES: UNLESS OTHERWISE SPECIFIED

-A-	DRAWING NUMBER
FT-50 FLOOR MOUNT	I-00401 I-00415

-B-	DRAWING NUMBER
PROLINE REJECTOR FLOOR MOUNT	I-00378
PROLINE REJECTOR CONVEYOR MOUNT	I-00393

INSTALLATION DRAWING

LEFTHAND FT-50 WITH
CENTERLINE TRIGGER
AND RIGHTHAND PROLINE REJECTOR

ITEM NO.	NO. REQ'D	PART NUMBER	DESCRIPTION	REMARKS

UNLESS SPECIFIED
DIMENSIONS ARE IN INCHES
BREAK SHARP EDGES .005-.015
FINISH 125 MU INCHES MAX.
REMOVE BURRS
DO NOT SCALE DRAWING
MACHINE TOLERANCES
.XXX ±.005 .XX ±.015 ANGULARITY ±0°30'

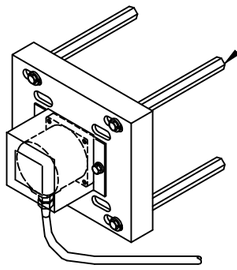
INDUSTRIAL DYNAMICS CO., LTD.
TORRANCE, CALIFORNIA

ID,FT-50 LH,CL TRIG,PRO RH

DR	DATE	CAD	MATERIAL	FINISH
A. KAMEDA	07/23/93	AVAILABLE		
CHK		MAKE FROM		NO. REQ. PER UNIT 1
APPR				
SCALE NONE	PRODUCTION STATUS	USED ON FT-50		DWG. NO. I-00510

I–00442 | 1

REV NO.	REVISIONS	DATE	DRAFTER	APPR	APPR	APPR
1	SEE DCR FOR CHANGE	6–2–94	PL	—	—	



REMOTE ENCODER KIT
24970
SEE I–00484 FOR
INSTALLATION INSTRUCTIONS

INSTALLATION DRAWING

RIGHT HAND FT–50 BOTTLES, CENTERLINE
TRIGGER WITH LEFT HAND IMPULSE REJECTOR

9 A CUSTOMER SUPPLIED BACKUP SENSOR MUST BE MOUNTED DOWNSTREAM TO PREVENT PRODUCT BACKUPS THROUGH THE SYSTEM.

8 ON LINES WITH CARBONATED OR FOAMING PRODUCTS: ADEQUATE CONVEYOR TRAVEL MUST BE PROVIDED UPSTREAM OF THE INSPECTION HEAD TO ALLOW THE PRODUCT TO FORM A CLEARLY DEFINED AND STABLE LINE BETWEEN THE LIQUID AND FOAM. TYPICALLY 5 TO 7 SECONDS OF CONVEYOR TRAVEL FROM A MAJOR DISTURBANCE: CAPPER OR CROWNER; AND 3 TO 5 SECONDS FROM A MINOR DISTURBANCE: COMBINER, CONVEYOR BRUSH OFF, OR CURVE.

7 A SECOND 7–1/2" [19.05] TAKEAWAY CONVEYOR AND WATER SPRAYER IS REQUIRED FOR INSTALLATIONS RUNNING ABOVE 100 FEET PER MINUTE [30.48 METERS PER MINUTE].

6 FASTEN WEARSTRIPS AT UPSTREAM END ONLY.

5 FOR PROPER SPACING, SEE APPROPRIATE REJECTOR INSTALLATION DRAWING.

4 MINIMUM DISTANCEFROM LAST INSPECTION POINT (SEE VIEW A): 7.00 [17.78] OR 2.5 CONTAINER DIAMETERS. WHICH EVER IS GREATER.

3 MAXIMUM DISTANCE RECOMMENDED: 16 CONTAINERS DOWNSTREAM OF THE INSPECTION HEAD TRIGGER.

2. RIGHT HAND INSPECTION WITH LEFT HAND REJECT SHOWN.

1. DIMENSIONS ARE IN INCHES AND [CENTIMETERS].

NOTES: UNLESS OTHERWISE SPECIFIED

–A– (INSPECTION HEAD)	DRAWING NUMBER
FT–50 FLOOR MOUNT	I–00401 I–00415
FT–50 CONVEYOR MOUNT	I–00394

–B– (IMPULSE REJECTOR)	DRAWING NUMBER
PROLINE REJECTOR FLOOR MOUNT	I–00378
PROLINE REJECTOR CONVEYOR MOUNT	I–00393

ITEM NO.	NO. REQ'D	PART NUMBER	DESCRIPTION	REMARKS

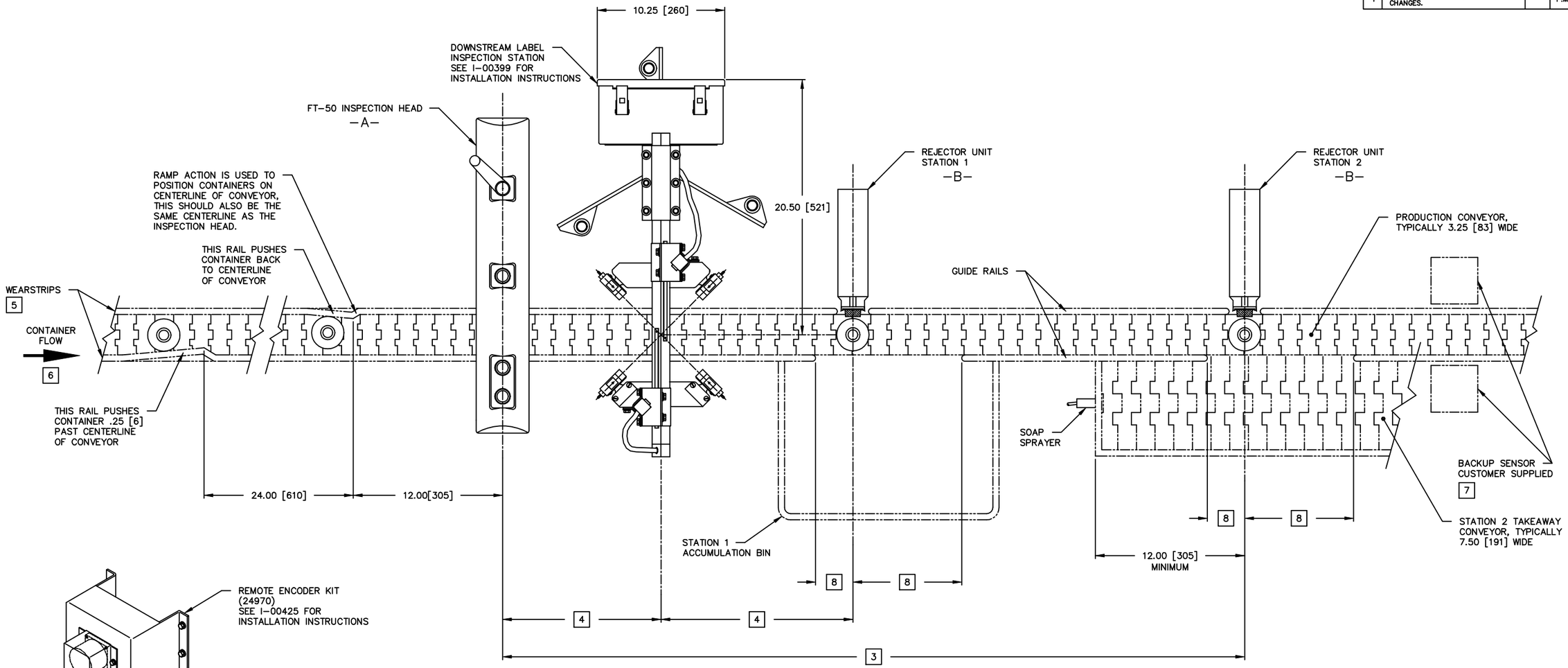
UNLESS SPECIFIED:
DIMENSIONS ARE IN INCHES
BREAK SHARP EDGES .005–.015
FINISH: 125 MU INCHES MAX.
REMOVE BURRS
DO NOT SCALE DRAWING
MACHINE TOLERANCES
.XXX ±.005 .XX ±.015 ANGULARITY ±0° 30'

INDUSTRIAL DYNAMICS CO., LTD.
TORRANCE, CALIFORNIA

ID,FT–50B,CL TRIG W/IMPULSE REJ

DRAFTER P. McCARTHY	DATE 6/25/91	CAD AVAILABLE	MATERIAL	FINISH	
DESIGNER E. SILVEIRA	DATE 6–25–91	MAKE FROM			NO. REQ. PER UNIT
APPR D. A. PETERSEN	DATE 6–26–91	USED ON			
APPR S. GRAY	DATE 6–26–91	RELEASED DATE	SCALE NONE	DWG. NO. I–00442	
APPR	DATE				

NO.	REVISIONS	DATE	BY	APP
1	REVISED & REDRAWN, SEE DCR FOR CHANGES.		P.M.	



-A-	INSTALLATION DRAWING NUMBER
FT-50 FLOOR MOUNT	I-00401 I-00415
FT-50 CONVEYOR MOUNT	I-00394

-B-	INSTALLATION DRAWING NUMBER
PROLINE REJECTOR FLOOR MOUNT	I-00378
PROLINE REJECTOR CONVEYOR MOUNT	I-00393
HIGH SPEED RAM FLOOR MOUNT	I-00395
HIGH SPEED RAM CONVEYOR MOUNT	I-00392
STANDARD RAM FLOOR MOUNT	I-00396
STANDARD RAM CONVEYOR MOUNT	I-00391

8 FOR PROPER SPACING, REFER TO APPROPRIATE REJECTOR INSTALLATION DRAWING.

7 A CUSTOMER SUPPLIED BACKUP SENSOR MUST BE MOUNTED DOWNSTREAM TO PREVENT PRODUCT BACKUPS THROUGH THE SYSTEM.

6 ON LINES WITH CARBONATED OR FOAMING PRODUCTS: ADEQUATE CONVEYOR TRAVEL MUST BE PROVIDED UPSTREAM OF THE INSPECTION HEAD TO ALLOW THE PRODUCT TO FORM A CLEARLY DEFINED AND STABLE LINE BETWEEN THE LIQUID AND FOAM. TYPICALLY 5 TO 7 SECONDS OF CONVEYOR TRAVEL FROM A MAJOR DISTURBANCE: CAPPER OR CROWNER; AND 3 TO 5 SECONDS FROM A MINOR DISTURBANCE: COMBINER, CONVEYOR BRUSH OFF OR CURVE.

5 FASTEN WEARSTRIPS AT UPSTREAM END ONLY.

4 MINIMUM DISTANCE RECOMMENDED: 2 CONTAINER DIAMETERS.

3 MAXIMUM DISTANCE RECOMMENDED: 32 CONTAINER DIAMETERS.

2. LEFT HAND INSPECTION WITH RIGHT HAND REJECTION SHOWN FOR REFERENCE ONLY.

1. DIMENSIONS ARE IN INCHES AND [MILLIMETERS].

NOTES: UNLESS OTHERWISE SPECIFIED

INSTALLATION DRAWING

FT-50, MISSING LABEL INSPECTION STATION, DUAL IMPULSE REJECT SYSTEMS

ITEM NO.	NO. REQ'D	PART NUMBER	DESCRIPTION	REMARKS

UNLESS SPECIFIED: DIMENSIONS ARE IN INCHES. BREAK SHARP EDGES .002-.005. FINISH: 125 MU INCHES MAX. REMOVE BURRS. DO NOT SCALE DRAWING. MACHINE TOLERANCES: XXX ±.005, XX ±.015, ANGULARITY ±0° 30'

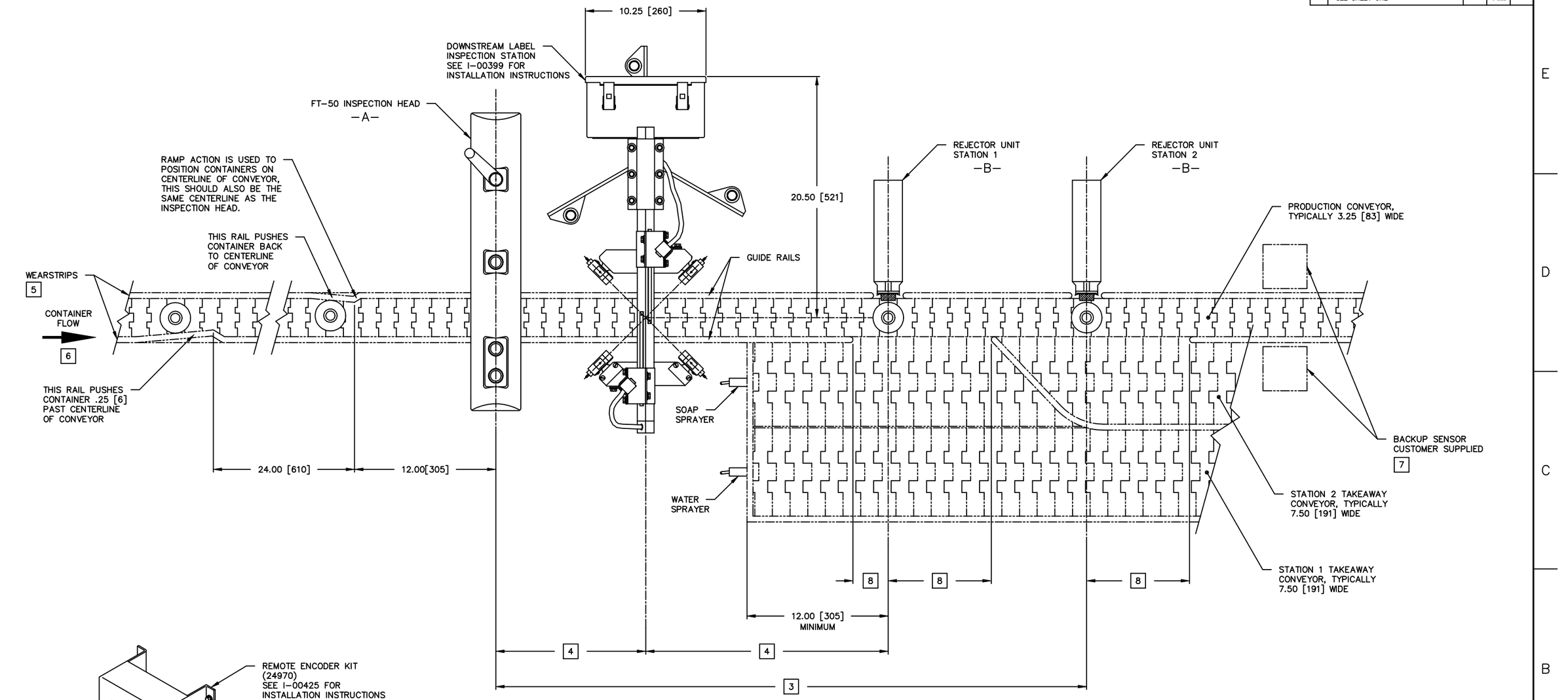
INDUSTRIAL DYNAMICS CO., LTD.
TORRANCE, CALIFORNIA

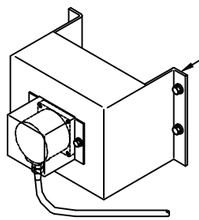
ID,FT-50,ML INSP STA,DUAL IMPLS RJ

DR P. McCARTHY — DATE 1/30/92 — CAD AVAILABLE — MATERIAL — FINISH
CHK — MAKE FROM — NO. REQ. PER UNIT
APPR
SCALE NONE — PROD. RELEASE 2/28/91 W.J. BRECKENRIDGE — USED ON — DWG. NO. I-00435

I-00435 | 1

NO.	REVISIONS	DATE	BY	APP
—	SEE SHEET ONE		P.M.	





REMOTE ENCODER KIT (24970)
SEE I-00425 FOR INSTALLATION INSTRUCTIONS

-A-	INSTALLATION DRAWING NUMBER
FT-50 FLOOR MOUNT	I-00401 I-00415
FT-50 CONVEYOR MOUNT	I-00394

-B-	INSTALLATION DRAWING NUMBER
PROLINE REJECTOR FLOOR MOUNT	I-00378
PROLINE REJECTOR CONVEYOR MOUNT	I-00393
HIGH SPEED RAM FLOOR MOUNT	I-00395
HIGH SPEED RAM CONVEYOR MOUNT	I-00392
STANDARD RAM FLOOR MOUNT	I-00396
STANDARD RAM CONVEYOR MOUNT	I-00391

INSTALLATION DRAWING

FT-50, MISSING LABEL INSPECTION STATION, DUAL IMPULSE REJECT SYSTEMS

ITEM NO.	NO. REQ'D	PART NUMBER	DESCRIPTION	REMARKS

UNLESS SPECIFIED:
DIMENSIONS ARE IN INCHES
BREAK SHARP EDGES .003-.005
FINISH: 125 MU INCHES MAX.
REMOVE BURRS
DO NOT SCALE DRAWING
MACHINE TOLERANCES
XXX ±.005 | XX ±.015 | ANGULARITY ±0° 30'

INDUSTRIAL DYNAMICS CO., LTD.
TORRANCE, CALIFORNIA

ID,FT-50,ML INSP STA,DUAL IMPLS RJ

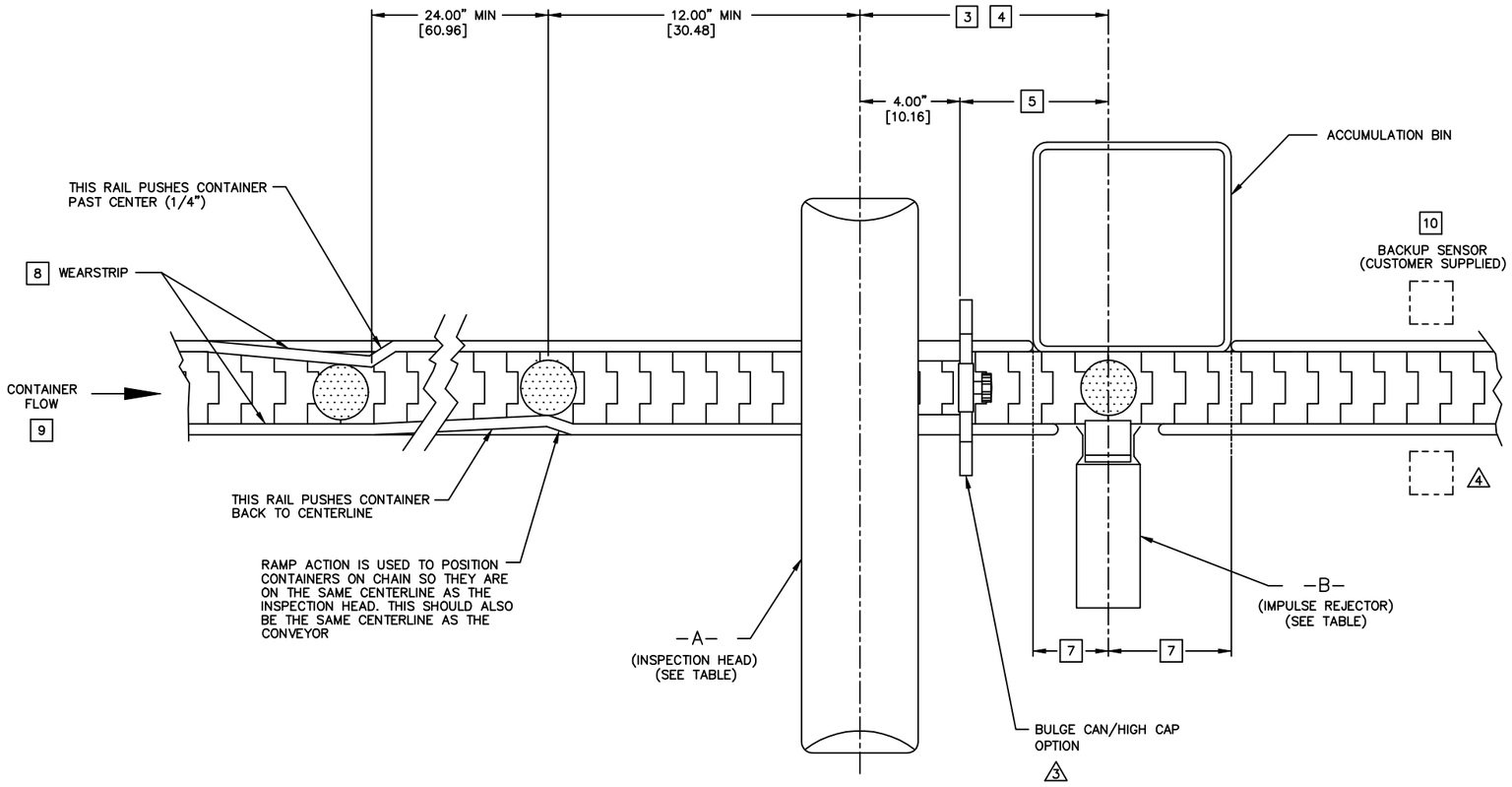
DR	DATE	CAD	MATERIAL	FINISH
P. McCARTHY	1/30/92	AVAILABLE		
CHK		MAKE FROM		NO. REQ. PER UNIT
APPR				
SCALE: NONE	PROD. RELEASE	USED ON	DWG. NO.	I-00435

SEE SHEET ONE FOR NOTES.

NOTES: UNLESS OTHERWISE SPECIFIED

I-00418 | 5

REV NO.	REVISIONS	DATE	DRAFTER	APPR	APPR	APPR
1	SEE DCR FOR CHANGES	10/23/89	IPC		R.P.	
2	COMBINED NOTES 2 & 3; ADDED NOTE 4	1/22/90	T.M.	GF	WJB	
3	ADDED HIGH CAP OPT; REV NOTE 2: WAS "IF BULGE CAN OPTION..."; ADDED NOTE 5; REV TITLE: WAS "INSTALL FT-50C,..."	9/26/90	RKN		WJB	
4	ADDED NOTES 1 & 7 THRU 10; RENUMBERED NOTES A/R; ADDED WEARSTRIP CALLOUT, BACK UP SENSOR AND REMOTE ENCODER ILLUS.	8/29/91	B.B.		DAP	
5	REV NOTES 3 & 4, TABLES A & B & ENCODER KIT VIEW; DEL NOTE 6	5/28/96	SDF		CMW	PEM



5 -A- (INSPECTION HEAD)	DRAWING NUMBER
4 FT-50 FLOOR MOUNT	I-00401 I-00415

5 -B- (IMPULSE REJECTOR)	DRAWING NUMBER
PROLINE REJECTOR FLOOR MOUNT	I-00378
PROLINE REJECTOR CONVEYOR MOUNT	I-00393

4 10 A CUSTOMER SUPPLIED BACKUP SENSOR MUST BE MOUNTED DOWNSTREAM TO PREVENT PRODUCT BACKUPS THROUGH THE SYSTEM.

4 9 ON LINES WITH CARBONATED OR FOAMING PRODUCTS, ADEQUATE CONVEYOR TRAVEL MUST BE PROVIDED UPSTREAM OF THE INSPECTION HEAD TO ALLOW THE PRODUCT TO FORM A CLEARLY DEFINED AND STABLE LINE BETWEEN THE LIQUID AND FOAM. TYPICALLY 5 TO 7 SECONDS OF CONVEYOR TRAVEL FROM A MAJOR DISTURBANCE (CAPPER OR CROWNER). AND 3 TO 5 SECONDS FROM A MINOR DISTURBANCE (COMBINER, CONVEYOR BRUSH OFF OR CURVE).

4 8 FASTEN WEARSTRIPS AT UPSTREAM END ONLY.

4 7 FOR PROPER SPACING, REFER TO APPROPRIATE PROLINE INSTALLATION DRAWING.

5 3 6. DELETED

2 5 MINIMUM DISTANCE IS 2 CONTAINER DIAMETERS.

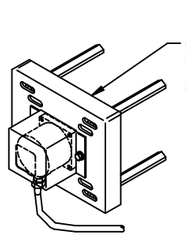
5 2 4 FOR ZERO SPEED OPERATION, ENCODER KIT 24970 IS REQUIRED. THEN INSPECTION HEAD TO RAM DISTANCE CAN BE INCREASED FROM 4 TO 32 CONTAINER DIAMETERS.

3 2 5 3 MINIMUM DISTANCE 7.00" OR 2.5 CONTAINER DIAMETERS, WHICH EVER IS GREATER. IF BULGE CAN/HIGH CAP OPTION IS USED, SEE NOTE 5. MAXIMUM DISTANCE RECOMMENDED 4 CONTAINERS DOWNSTREAM OF THE INSPECTION HEAD TRIGGER. FOR GREATER DISTANCE, SEE NOTE 4.

2. RIGHT HAND INSPECTION WITH LEFT HAND REJECT SHOWN.

4 1. ALL DIMENSIONS ARE IN INCHES AND [CENTIMETERS].

NOTES: UNLESS OTHERWISE SPECIFIED



4 5 REMOTE ENCODER KIT PART NUMBER 24970. SEE DRAWING I-00484 FOR PROPER INSTALLATION

INSTALLATION DRAWING

FT-50, RIGHT HAND, CENTERLINE TRIGGER, LEFT HAND PRO-LINE IMPULSE REJECTOR

ITEM NO.	NO. REQ'D	PART NUMBER	DESCRIPTION

INTERPRET THIS DRAWING IN ACCORDANCE WITH ALL APPLICABLE ANSI STANDARDS

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES; BREAK SHARP EDGES .005-.015; FINISH: 125 MICROINCHES MAX.; REMOVE BURRS; DO NOT SCALE DRAWING; THREADS ARE PER FED-STD-H28; MACHINED INSIDE RADII .035 MAX

INDUSTRIAL DYNAMICS CO., LTD.
TORRANCE, CALIFORNIA

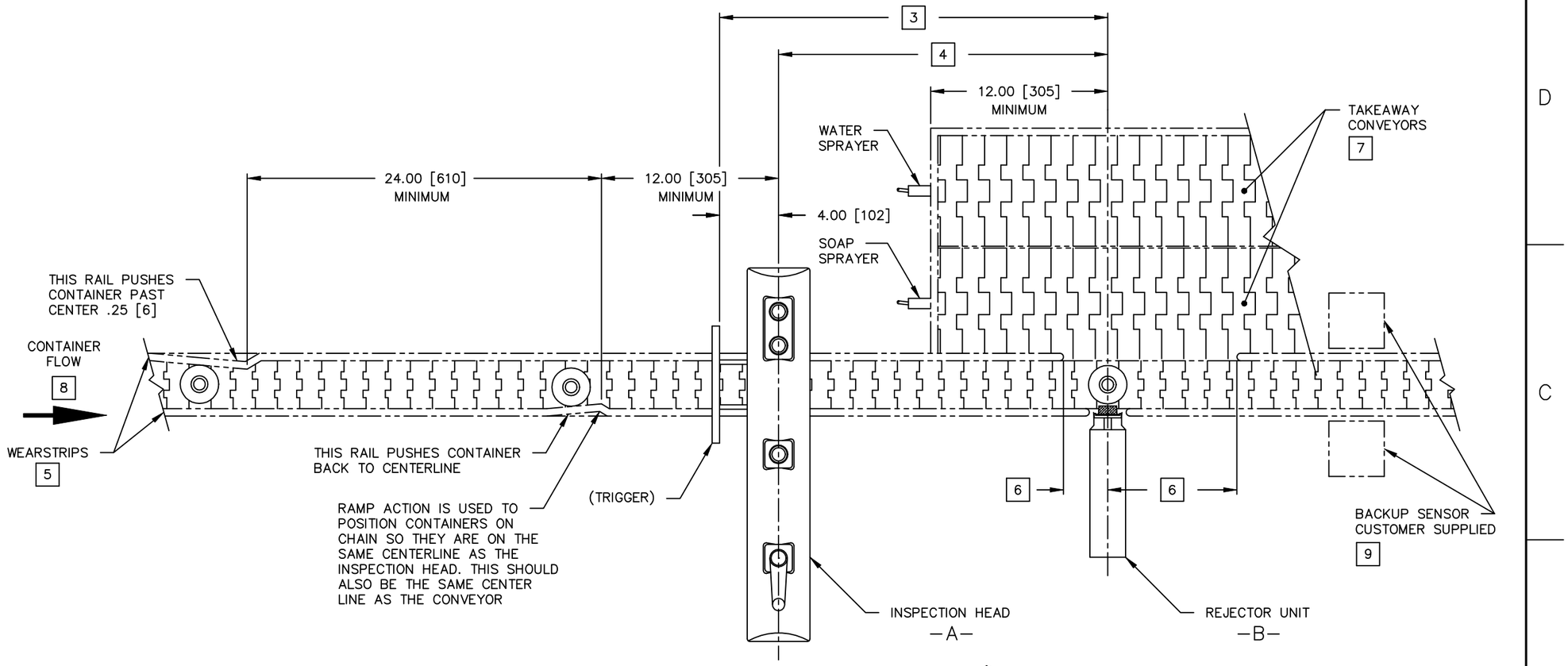
ID,FT-50,RH,CL TRIG,LH PRO

UNLESS OTHERWISE SPECIFIED MACHINING TOLERANCES ARE: .XXX ±.005 .XX ±.015 ANGULARITY ±.0°30'

DRAFTER	IVANHOE JR	DATE 10/20/89	SCALE NONE	MATERIAL	USED ON
DESIGNER		DATE			
APPR	RAY POLIZZI	DATE 10-23-89	PRODUCTION RELEASE R. POLIZZI	DATE 10/23/89	DWG. NO. I-00418
APPR		DATE			

I–00411	3

NO.	REVISIONS	DATE	BY	APP
3	SEE DCR FOR CHANGES		P.M.	



9 A CUSTOMER SUPPLIED BACKUP SENSOR MUST BE MOUNTED DOWNSTREAM TO PREVENT PRODUCT BACKUPS THROUGH THE SYSTEM.

8 ON LINES WITH CARBONATED OR FOAMING PRODUCTS: ADEQUATE CONVEYOR TRAVEL MUST BE PROVIDED UPSTREAM OF THE INSPECTION HEAD TO ALLOW THE PRODUCT TO FORM A CLEARLY DEFINED AND STABLE LINE BETWEEN THE LIQUID AND FOAM. TYPICALLY 5 TO 7 SECONDS OF CONVEYOR TRAVEL FROM A MAJOR DISTURBANCE: CAPPER OR CROWNER; AND 3 TO 5 SECONDS FROM A MINOR DISTURBANCE: COMBINER, CONVEYOR BRUSH OFF OR CURVE.

7 A SECOND 7.50 [191] TAKEAWAY CONVEYOR AND WATER SPRAYER ARE REQUIRED FOR INSTALLATIONS RUNNING ABOVE 100 FEET [30.5 METERS] PER MINUTE.

6 FOR PROPER SPACING, REFER TO APPROPRIATE REJECTOR INSTALLATION DRAWING.

5 FASTEN WEARSTRIPS AT UPSTREAM END ONLY.

4 MINIMUM DISTANCE: 7.00 [178] OR 2.5 CONTAINER DIAMETERS, WHICHEVER IS GREATER.

3 MAXIMUM DISTANCE RECOMMENDED: 16 CONTAINER DIAMETERS DOWNSTREAM OF THE INSPECTION HEAD TRIGGER.

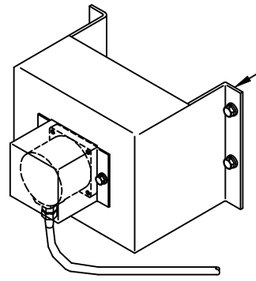
2. RIGHT HAND INSPECTION WITH LEFT HAND REJECT SHOWN.

1. DIMENSIONS ARE IN INCHES AND [MILLIMETERS].

NOTES: UNLESS OTHERWISE SPECIFIED

–A–	INSTALLATION DRAWING NUMBER
FT–50 FLOOR MOUNT	I–00401 I–00415
FT–50 CONVEYOR MOUNT	I–00394

–B–	INSTALLATION DRAWING NUMBER
PROLINE REJECTOR FLOOR MOUNT	I–00378
PROLINE REJECTOR CONVEYOR MOUNT	I–00393



REMOTE ENCODER KIT
(24970)
SEE I–00425 FOR
INSTALLATION INSTRUCTIONS

INSTALLATION DRAWING

FT–50 BOTTLES, UPSTREAM TRIGGER, PROLINE REJECT SYSTEM

ITEM NO.	NO. REQ'D	PART NUMBER	DESCRIPTION	REMARKS

UNLESS SPECIFIED:
DIMENSIONS ARE IN INCHES
BREAK SHARP EDGES .003–.005
FINISH: 125 MU INCHES MAX.
REMOVE BURRS
DO NOT SCALE DRAWING
MACHINE TOLERANCES
.XXX ±.005 .XX ±.015 ANGULARITY ±0° 30'

INDUSTRIAL DYNAMICS CO., LTD.
TORRANCE, CALIFORNIA

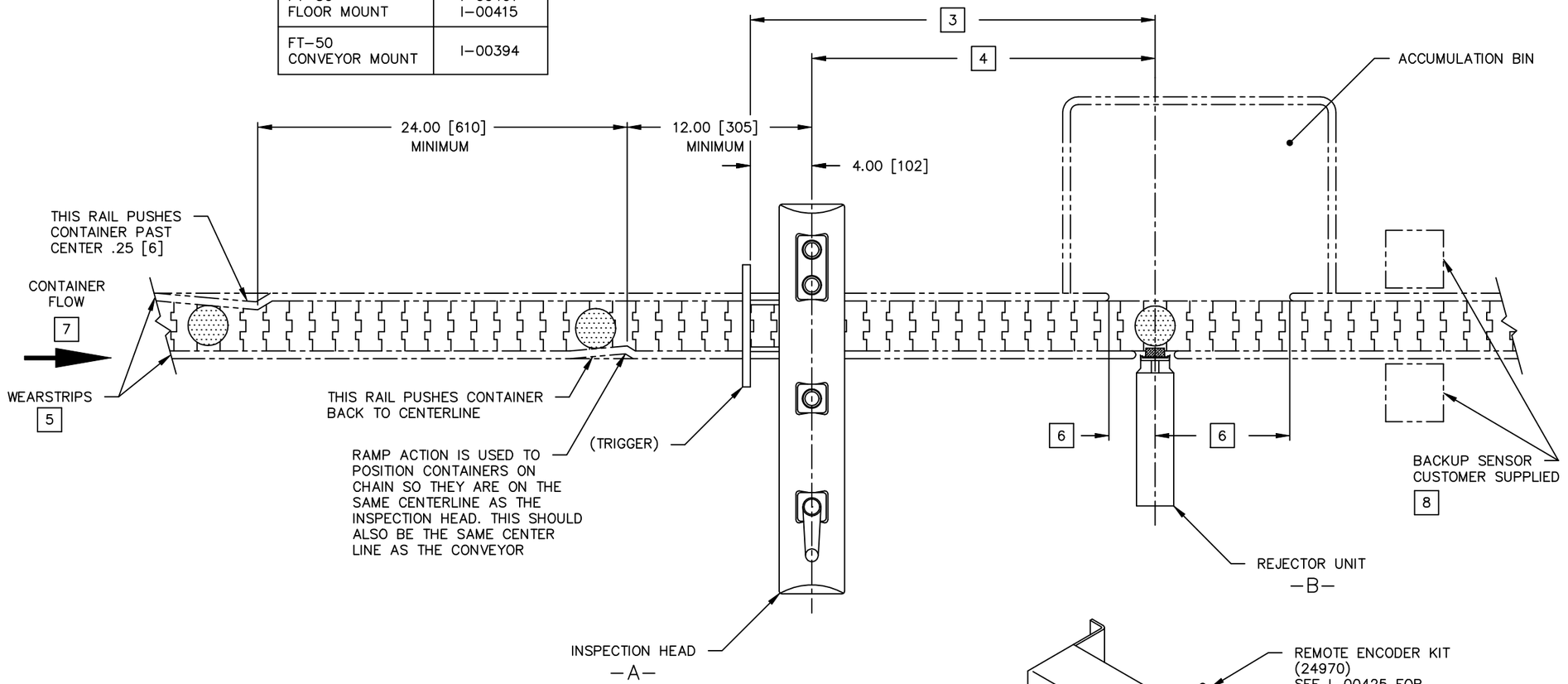
ID,FT–50/B,UPSTRM TRIG,PRO RJ

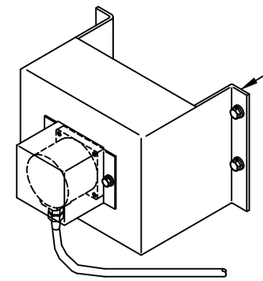
DR	DATE	CAD	MATERIAL	FINISH
HAL LOHR	1/9/89	AVAILABLE		
CHK		MAKE FROM		NO. REQ. PER UNIT
APPR CARSTEN IDLAND	3/23/89			
SCALE NONE	PROD. RELEASE	USED ON		DWG. NO. I–00411

I–00402	3

NO.	REVISIONS	DATE	BY	APP
3	SEE DCR FOR CHANGES		P.M.	

–A–	INSTALLATION DRAWING NUMBER
FT–50 FLOOR MOUNT	I–00401 I–00415
FT–50 CONVEYOR MOUNT	I–00394





INSTALLATION DRAWING

FT–50 CANS, UPSTREAM TRIGGER, IMPULSE REJECT SYSTEM

8 A CUSTOMER SUPPLIED BACKUP SENSOR MUST BE MOUNTED DOWNSTREAM TO PREVENT PRODUCT BACKUPS THROUGH THE SYSTEM.

7 ON LINES WITH CARBONATED OR FOAMING PRODUCTS: ADEQUATE CONVEYOR TRAVEL MUST BE PROVIDED UPSTREAM OF THE INSPECTION HEAD TO ALLOW THE PRODUCT TO FORM A CLEARLY DEFINED AND STABLE LINE BETWEEN THE LIQUID AND FOAM. TYPICALLY 5 TO 7 SECONDS OF CONVEYOR TRAVEL FROM A MAJOR DISTURBANCE: CAPPER OR CROWNER; AND 3 TO 5 SECONDS FROM A MINOR DISTURBANCE: COMBINER, CONVEYOR BRUSH OFF OR CURVE.

6 FOR PROPER SPACING, REFER TO APPROPRIATE REJECTOR INSTALLATION DRAWING.

5 FASTEN WEARSTRIPS AT UPSTREAM END ONLY.

4 MINIMUM DISTANCE: 7.00 [178] OR 2.5 CONTAINER DIAMETERS, WHICHEVER IS GREATER.

3 MAXIMUM DISTANCE RECOMMENDED: 16 CONTAINER DIAMETERS DOWNSTREAM OF THE INSPECTION HEAD TRIGGER.

2. RIGHT HAND INSPECTION WITH LEFT HAND REJECT SHOWN.

1. DIMENSIONS ARE IN INCHES AND [MILLIMETERS].

NOTES: UNLESS OTHERWISE SPECIFIED

–B–	INSTALLATION DRAWING NUMBER
PROLINE REJECTOR FLOOR MOUNT	I–00378
PROLINE REJECTOR CONVEYOR MOUNT	I–00393
HIGH SPEED RAM FLOOR MOUNT	I–00395
HIGH SPEED RAM CONVEYOR MOUNT	I–00392
STANDARD RAM FLOOR MOUNT	I–00396
STANDARD RAM CONVEYOR MOUNT	I–00391

ITEM NO.	NO. REQ'D	PART NUMBER	DESCRIPTION	REMARKS

UNLESS SPECIFIED:
DIMENSIONS ARE IN INCHES
BREAK SHARP EDGES .003–.005
FINISH: 125 MU INCHES MAX.
REMOVE BURRS
DO NOT SCALE DRAWING
MACHINE TOLERANCES
.XXX ±.005 .XX ±.015 ANGULARITY ±0° 30'

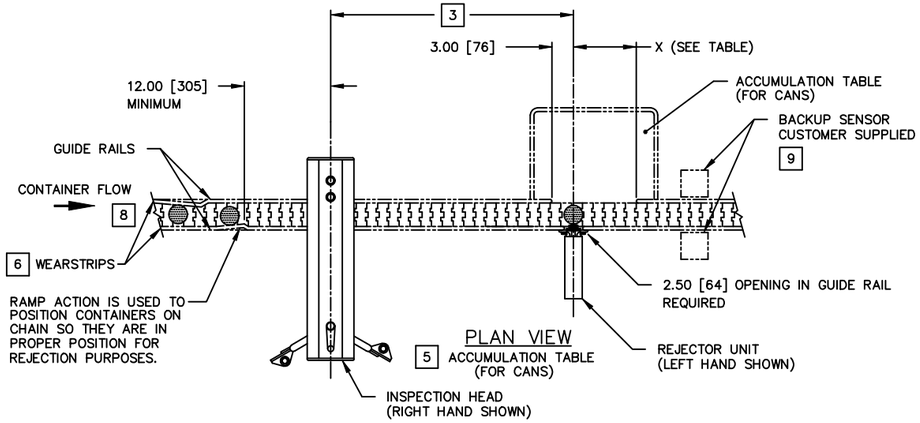
INDUSTRIAL DYNAMICS CO., LTD.
TORRANCE, CALIFORNIA

ID,FT–50/C,UPSTRM TRIG,IMPLS RJ

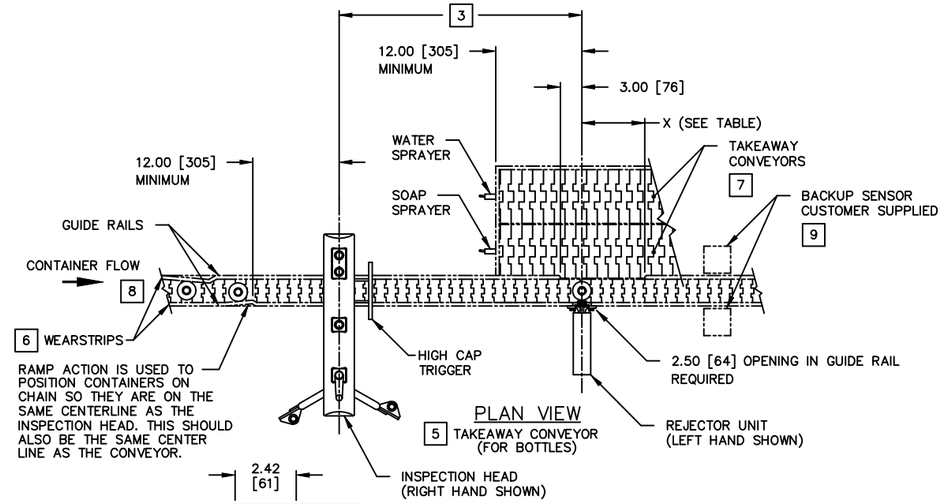
DR HAL LOHR	DATE 1/9/89	CAD AVAILABLE	MATERIAL	FINISH
CHK		MAKE FROM		NO. REQ. PER UNIT
APPR RAY POLIZZI	10–23–89			
SCALE NONE	PROD. RELEASE RAY POLIZZI 10–23–89	USED ON		DWG. NO. I–00402

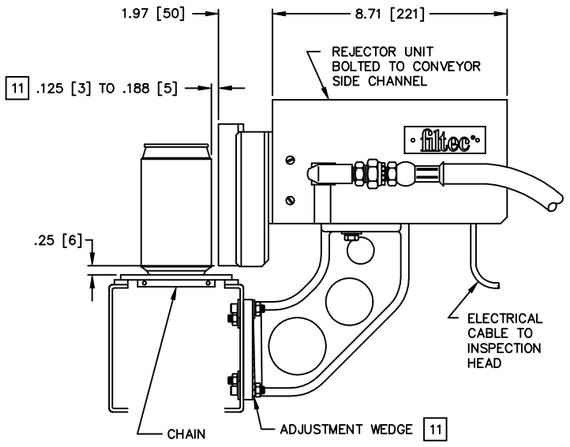
I-00393 | 5

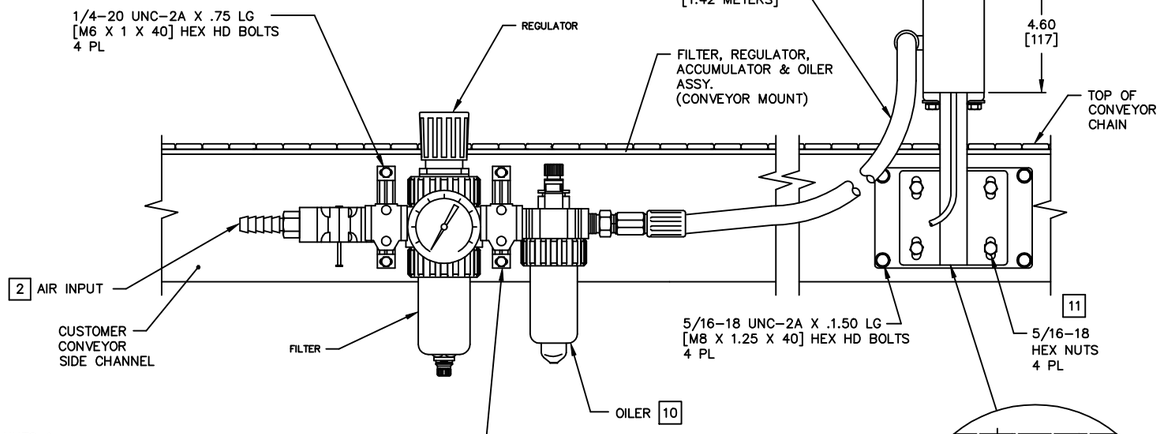
REV NO.	REVISIONS	DATE	DRAFTER	APPR	APPR	APPR
5	SEE DWG CONTROL FOR HISTORY.	2/24 98	RKN	CMW		

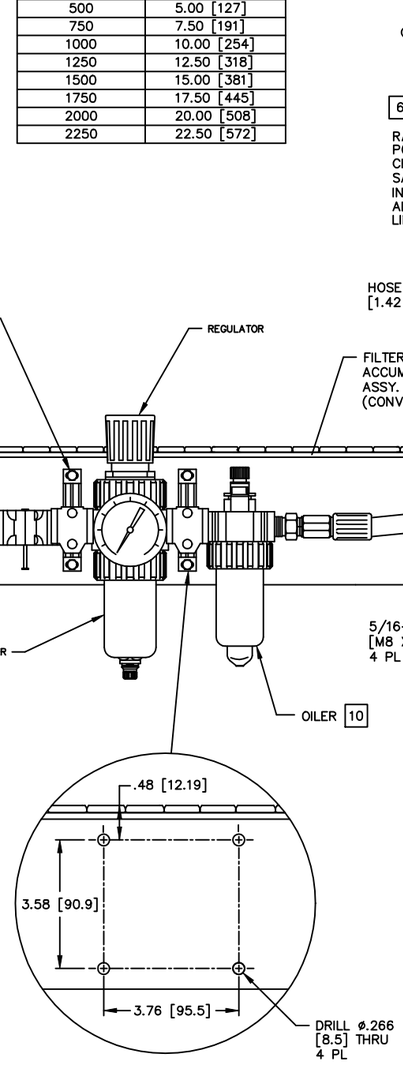


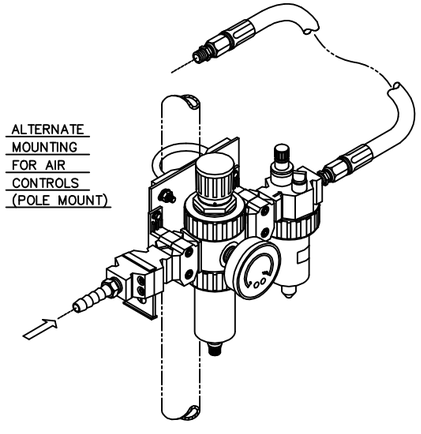
CANS/BOTTLES PER MINUTE	PLAN VIEW DIMENSION "X"
500	5.00 [127]
750	7.50 [191]
1000	10.00 [254]
1250	12.50 [318]
1500	15.00 [381]
1750	17.50 [445]
2000	20.00 [508]
2250	22.50 [572]











INSTALLATION DRAWING

PROLINE IMPULSE RAM REJECT SYSTEM, CONVEYOR MOUNT

11 ADJUST FACE OF REJECTOR PAD TO BE PARALLEL TO SIDE OF CONTAINER. LOOSEN 4 HEX NUTS & ADJUST WEDGE UP/DOWN TO ACHIEVE THIS.

10 FILL MIST OILER WITH 5 WT NON-DETERGENT OIL (IDC P/N 00177)

9 A CUSTOMER SUPPLIED BACKUP SENSOR MUST BE MOUNTED DOWNSTREAM TO PREVENT PRODUCT BACKUPS THROUGH THE SYSTEM.

8 A SECOND 7.50 [191] TAKEAWAY CONVEYOR AND WATER SPRAYER IS REQUIRED FOR INSTALLATIONS RUNNING ABOVE 100 FEET [30.48 METERS] PER MINUTE.

7 ON LINES WITH CARBONATED OR FOAMING PRODUCTS: ADEQUATE CONVEYOR TRAVEL MUST BE PROVIDED UPSTREAM OF THE INSPECTION HEAD TO ALLOW THE PRODUCT TO FORM A CLEARLY DEFINED AND STABLE LINE BETWEEN THE LIQUID AND FOAM. TYPICALLY 5 TO 7 SECONDS OF CONVEYOR TRAVEL FROM A MAJOR DISTURBANCE: CAPPER OR CROWNER; AND 3 TO 5 SECONDS FROM A MINOR DISTURBANCE: COMBINER, CONVEYOR BRUSH OFF OR CURVE.

6 FASTEN WEARSTRIPS AT UPSTREAM END ONLY.

5 ACCUMULATION TABLE OR TAKEAWAY CONVEYOR MUST BE .031 [.8] BELOW PRODUCTION CHAIN SURFACE.

4. LEFT HAND REJECTOR SHOWN, HAND MAY BE REVERSED.

3 WHEN USED WITH THE FT-50 INSPECTION SYSTEM, THE REJECTOR UNIT MAY BE UP TO FOUR (4) CONTAINERS DOWNSTREAM OF THE INSPECTION HEAD CENTERLINE (OR THIRTY TWO (32) CONTAINERS WITH ENCODER).

2 AIR SUPPLY FOR REJECTOR UNIT IS 80 TO 125 PSIG @ 2.5 CFM [552 TO 862 KILOPASCAL @ 71 LITERS/MIN], FILTERED WITH WATER TRAP (FILTER, REGULATOR, ACCUMULATOR AND OILER SUPPLIED WITH FT-50 UNIT). 1/2 IN. NPT FITTING.

1. DIMENSIONS ARE IN INCHES AND [MILLIMETERS].

NOTES: UNLESS OTHERWISE SPECIFIED

ITEM NO.	NO. REQ'D	PART NUMBER	DESCRIPTION	REMARKS

UNLESS SPECIFIED: DIMENSIONS ARE IN INCHES. BREAK SHARP EDGES .005-.015. FINISH: 125 MU INCHES MAX. REMOVE BURRS. DO NOT SCALE DRAWING. MACHINE TOLERANCES: .XXX ±.005, .XX ±.015, ANGULARITY ±0° 30'

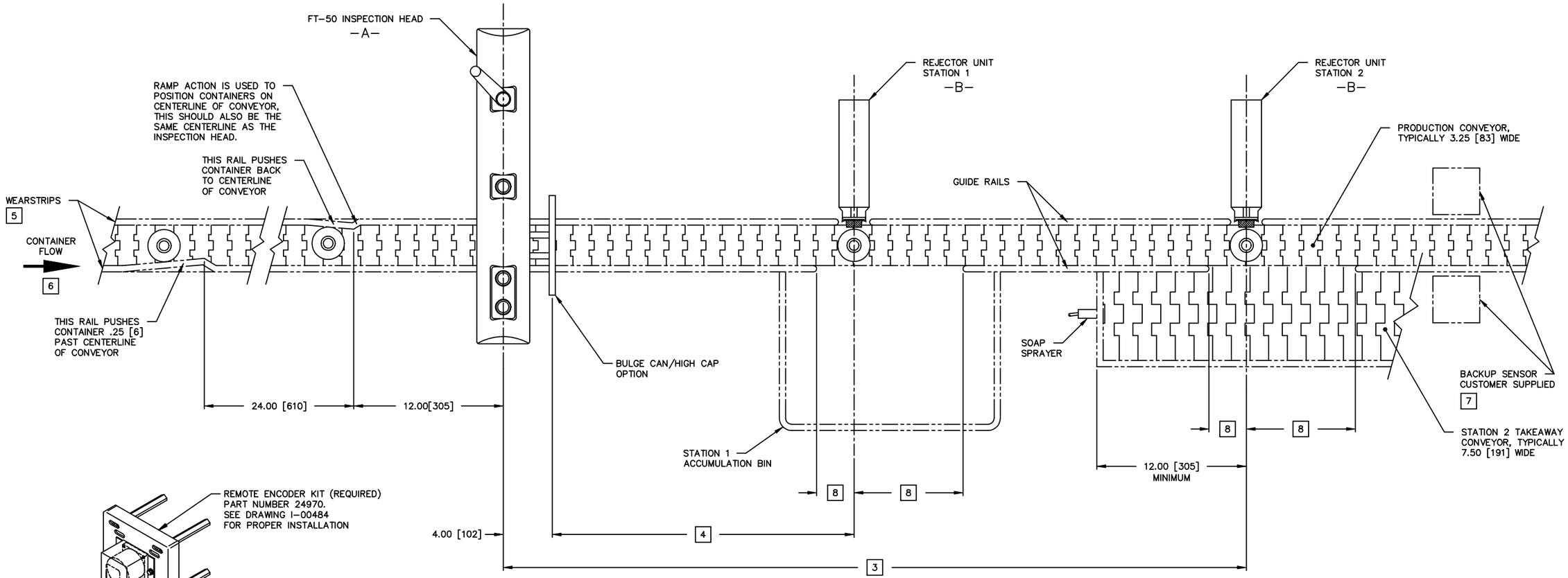
INDUSTRIAL DYNAMICS CO., LTD.
TORRANCE, CALIFORNIA

ID,PRO RJ,CNVR MT

DRAFTER: HAL LOHR	DATE: 06/14/88	CAD AVAILABLE	MATERIAL	FINISH	
DESIGNER	DATE	MAKE FROM			NO. REQ. PER UNIT
APPR: RAY POLIZZI	DATE: 07/01/88	USED ON			
APPR	DATE	RELEASED 07/01/88 RAY POLIZZI	DATE	SCALE: NONE	DWG. NO.: I-00393
APPR	DATE				

I–00738	0

REV NO.	REVISIONS	DATE	DRAFTER	APPR



–A–	INSTALLATION DRAWING NUMBER
FT–50 FLOOR MOUNT	I–00401 I–00415

–B–	INSTALLATION DRAWING NUMBER
PROLINE REJECTOR FLOOR MOUNT	I–00378
PROLINE REJECTOR CONVEYOR MOUNT	I–00393

8 FOR PROPER SPACING, REFER TO APPROPRIATE REJECTOR INSTALLATION DRAWING.

7 A CUSTOMER SUPPLIED BACKUP SENSOR MUST BE MOUNTED DOWNSTREAM TO PREVENT PRODUCT BACKUPS THROUGH THE SYSTEM.

6 ON LINES WITH CARBONATED OR FOAMING PRODUCTS: ADEQUATE CONVEYOR TRAVEL MUST BE PROVIDED UPSTREAM OF THE INSPECTION HEAD TO ALLOW THE PRODUCT TO FORM A CLEARLY DEFINED AND STABLE LINE BETWEEN THE LIQUID AND FOAM. TYPICALLY 5 TO 7 SECONDS OF CONVEYOR TRAVEL FROM A MAJOR DISTURBANCE: CAPPER OR CROWNER; AND 3 TO 5 SECONDS FROM A MINOR DISTURBANCE: COMBINER, CONVEYOR BRUSH OFF OR CURVE.

5 FASTEN WEARSTRIPS AT UPSTREAM END ONLY.

4 MINIMUM DISTANCE RECOMMENDED: 2 CONTAINER DIAMETERS.

3 MAXIMUM DISTANCE RECOMMENDED: 32 CONTAINER DIAMETERS.

2. LEFT HAND INSPECTION WITH RIGHT HAND REJECTION SHOWN FOR REFERENCE ONLY.

1. DIMENSIONS ARE IN INCHES AND [MILLIMETERS].

NOTES: UNLESS OTHERWISE SPECIFIED

INTERPRET THIS DRAWING IN ACCORDANCE WITH ALL APPLICABLE ANSI STANDARDS

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES DO NOT SCALE DRAWING

INDUSTRIAL DYNAMICS CO., LTD.
TORRANCE, CALIFORNIA

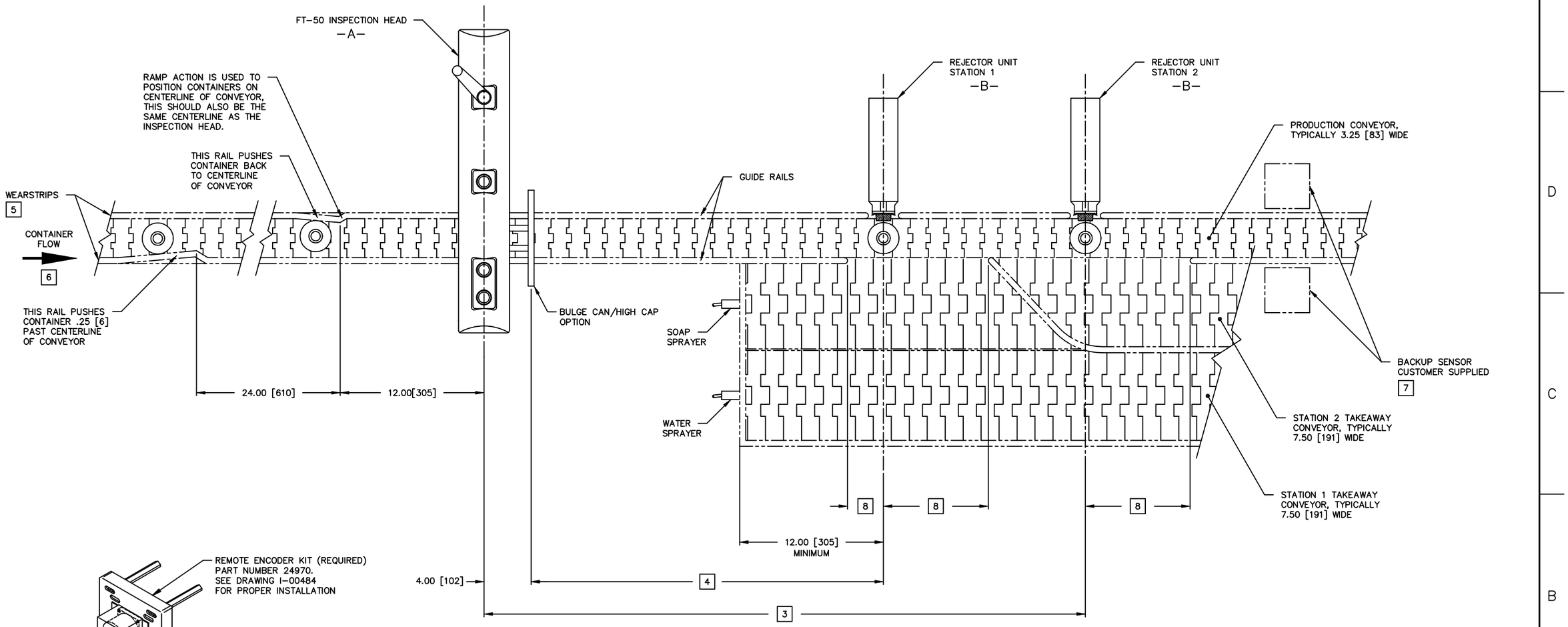
INSTALL,FT–50,DUAL IMPULSE REJECT

SHT	DRAFTER	DATE	USED ON	DWG. NO.
1 OF 2	R.K. NORTHINGTON	11/8/99	FT–50	I–00738
	APPR PHIL WILES	DATE 11/8/99		

Delos Installation Format Rev. 0

I-00738 | 0

REV NO.	REVISIONS	DATE	DRAFTER	APPR



-A-	INSTALLATION DRAWING NUMBER
FT-50 FLOOR MOUNT	I-00401 I-00415

-B-	INSTALLATION DRAWING NUMBER
PROLINE REJECTOR FLOOR MOUNT	I-00378
PROLINE REJECTOR CONVEYOR MOUNT	I-00393

NOTES: UNLESS OTHERWISE SPECIFIED (SEE SHEET ONE FOR NOTES)

INTERPRET THIS DRAWING IN ACCORDANCE WITH ALL APPLICABLE ANSI STANDARDS

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES DO NOT SCALE DRAWING

INDUSTRIAL DYNAMICS CO., LTD.
TORRANCE, CALIFORNIA

INSTALL,FT-50,DUAL IMPULSE REJECT

SHT	DRAFTER	DATE	USED ON	DWG. NO.
2 OF 2	APPR	DATE	FT-50	I-00738

Dallas Installation Format Rev. 0