AD-4982-2035

Conveyor Drop Type Rejector

ASSEMBLY GUIDE

A&D Company, Limited

1WMPD4002897

WARNING DEFINITIONS

The warnings described in this manual have the following meanings:

⚠WARNING	A potentially hazardous situation which, if not avoided, could result in death or serious injury.
⚠CAUTION	A potentially hazardous situation which, if not avoided, may result in minor or moderate injury or damage to the instrument.
	This symbol indicates caution against electrical shock. Do not touch the part where the symbol is placed.
	This symbol indicates the ground terminal.
	This symbol indicates that an operation is prohibited.
Note	Information or cautions to use the device correctly.

The contents of this manual and the specifications of the instrument covered by this manual are subject to change for improvement without notice.

Contents

1. Introduction

AD-4982-2035 is a conveyor drop type rejector exclusively designed for the AD-4961Checkweigher.

The conveyor is activated upward and downward by the air cylinder and separates the product into two directions (rejected products in one direction and passed products in one straight direction).

Chapter 3 describes how to install the AD-4982.

Chapter 4 describes how to connect the AD-4982 to the AD-4961.

Chapter 5 describes how to adjust the conveyor drop speed.

2. Unpacking

⚠CAUTION

The AD-4982-2035 conveyor drop type rejector is a precision instrument. Handle it with great care. A strong impact may damage the instrument.

Before installing the rejector, confirm that everything is included and check each component for damage.

If any of the components are missing, please contact the nearest local dealer.

Rejector

- Rejector main unit…1 unit
- Pneumatic regulator…1 unit
- M6 X15 hex bolt…6 pieces
- Motor driver board…1 piece
- Motor driver board securing screw (M3 X6W sems)…4 pieces
- Motor driver control cable…1 piece
- Cable labeled as 24V…1 piece

Documentation

- Assembly guide (this document) …1 copy

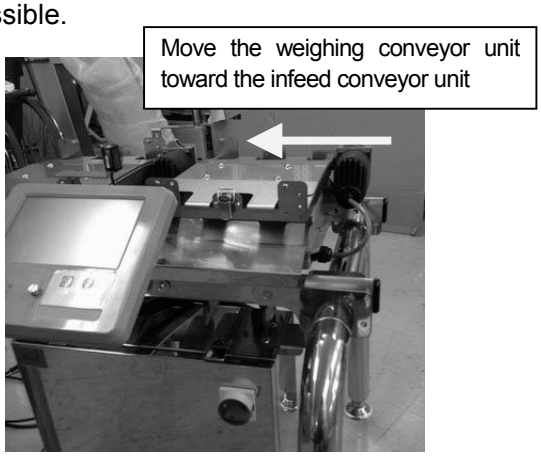
3. Installing the AD-4982

⚠CAUTION

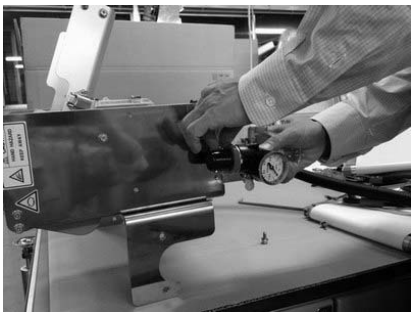
- Two people or more are required to install the rejector.
- Before connection, be sure to remove the power cable from the AD-4961.

Installation procedure

1. Before installing the AD-4982, move the weighing conveyor unit of the AD-4961 toward the infeed conveyor unit as much as possible.



2. Using the two screws (M6X15 hex belt) provided, attach the regulator to the AD-4982.

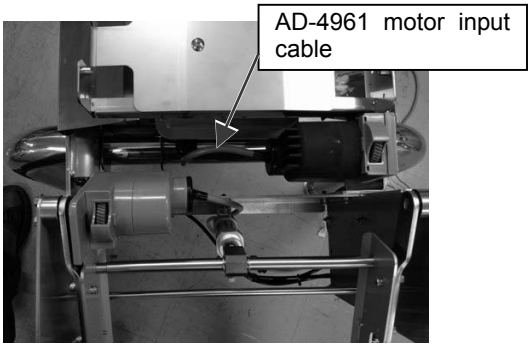


3. Hook the AD-4982 onto the frame.

4. Using the four screws (M6X15 hex bolt) provided, secure the AD-4982 to the frame.

5. Confirm that the AD-4961 motor input cable does not touch the AD-4982.

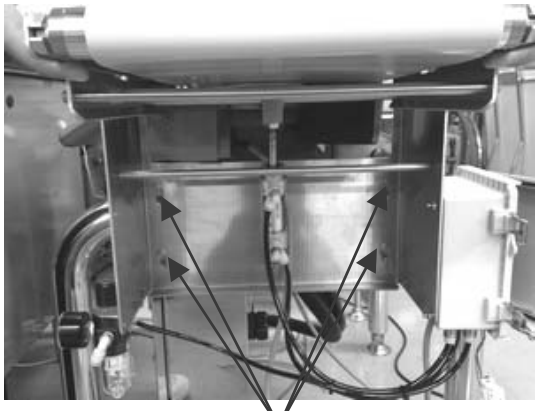
Note: When the AD-4961 motor input cable is in contact with the AD-4982, correct weighing cannot be performed.



Top view of the AD-4982 installation area

6. Install piping to the regulator. Adjust the regulator to set the air pressure to 0.5 Mpa.

7. Adjust the conveyor height of the AD-4982.

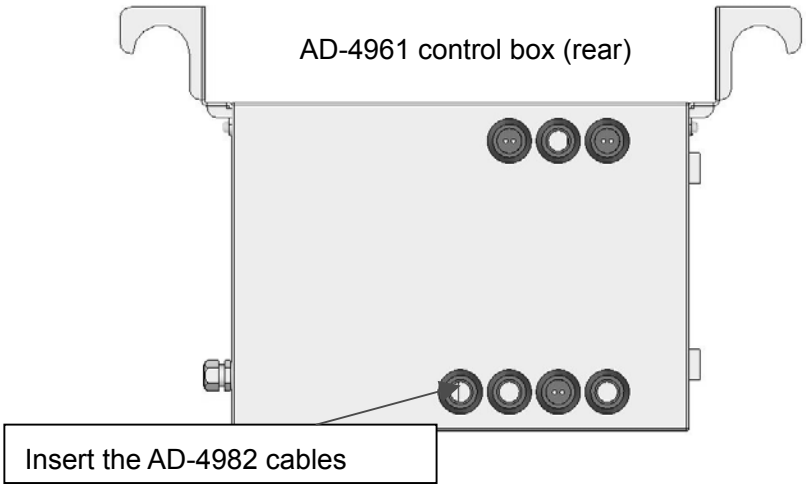


4. Connecting to the AD-4961

4.1. Connecting the Corrugated Tube

Connect the rejector to the AD-4961.

As shown below, insert the AD-4982 cables into the control box of the AD-4961 and attach the corrugated tube.

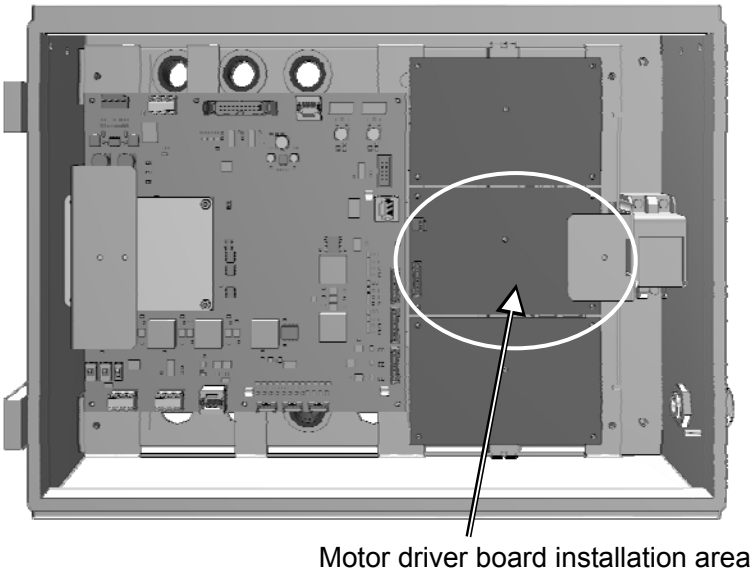


4.2. Installing the Motor Driver Board

Remove the DIN rail with the terminal blocks and relays connected.

Install the motor driver board in the area indicated by the arrow in the illustration below and secure the four corners of the board using the motor driver board securing screws (M3 X6W sems).

AD-4961 control box (inside)



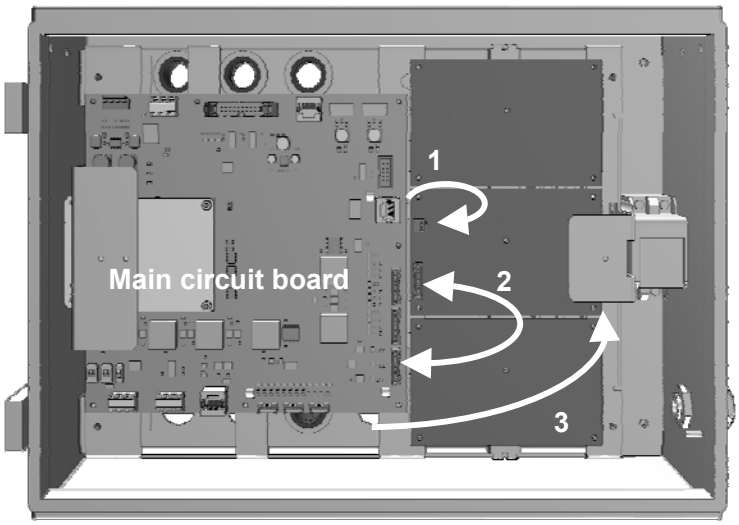
4.3. Connecting Cables to the Motor Driver Board

As shown below, connect the motor driver power cable, motor driver control cable and motor cable to the motor driver board.

1. Motor driver power cable (Black and red two-wire cable, installed in the control box)
   Connect to the motor driver board J2 terminal.

2. Motor driver control cable (Gray 10-wire cable, packed with the AD-4982)
   Connect between the Motor Control I/F CH3 connector on the main circuit board and the motor driver board J1 terminal.

3. Motor cable (8-wire cable, inserted into the control box using the corrugated tube from the AD-4982)
   Connect to the motor driver board J6 terminal. The J6 terminal is located under the DIN rail mounting bracket.



4. Replace the DIN rail.

4.4. Connecting the Conveyor Drop Driving Cables

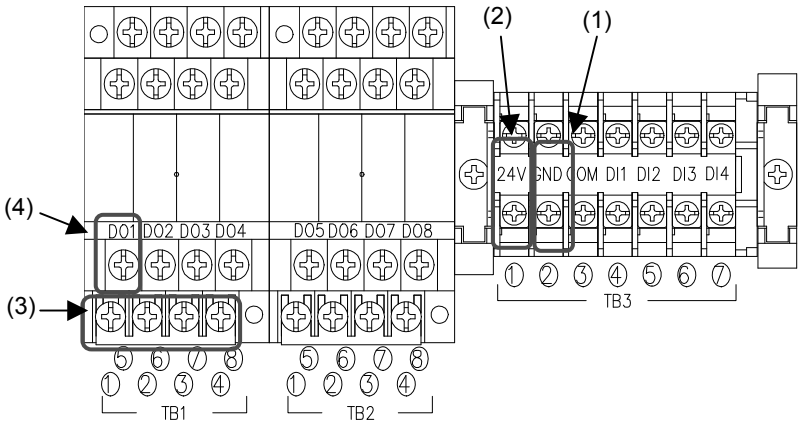
Connect cables to the terminal blocks inside the control box of the AD-4961.
See the illustration below to check the numbers of the terminal blocks and signal cables.

(1) Connect the cable labeled as GND to the GND terminal (②) of TB3.

(2) Connect one end of the cable labeled as 24V to the 24V terminal (①) of TB3.

(3) Connect the other end of the cable labeled as 24V to either one of the terminals (①to④) of TB1. The terminals (①to④) of TB1 have a jumper pin connected. Keep the jumper pin connected so that these terminals have the same electric potential.

(4) Connect the cable labeled as DO1 to the DO1 terminal (⑤) of TB1.



The connection is complete.
Before using the rejector, check the connector connection and screws for looseness.

4.5. Adjusting the Belt Speed

Connect the power cable and turn the rejector on.
Refer to “5.2. Adjusting the Belt Speed” of the AD-4961 instruction manual to adjust the belt speed of the rejector.

4.6. Setting DO

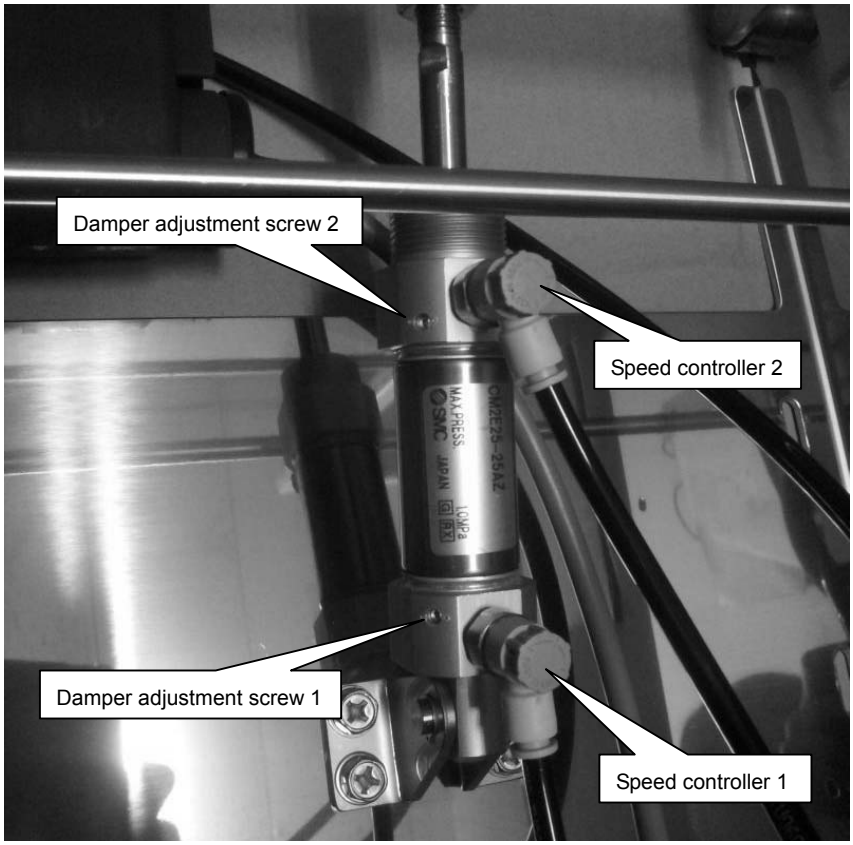
Refer to “8.3. DO Map” and “8.4. DO Behavior” of the AD-4961 instruction manual to set the DO map and Do behavior for the product to be separated.
When the drop speed of the conveyor is too slow to perform a correct separation or the impact from the conveyor is too great, a drop speed adjustment is required as described in Chapter 5.

5. Adjusing the Drop Speed

Adjust the drop speed of the conveyor.

Using the speed controllers and damper adjustment screws to adjust the conveyor behavior.

Use the speed controllers to adjust the drop speed.
Use the damper adjustment screws to adjust the impact from the conveyor.



1. Use the speed controller 1 to adjust the conveyor drop speed.
2. Tighten the damper adjustment screw 1 fully. Loosen the screw slowly to adjust so that the impact from the conveyor drop is small and the conveyor stops smoothly.
3. Use the speed controller 2 to adjust the conveyor rising speed.
4. Tighten the damper adjustment screw 2 fully. Loosen the screw slowly to adjust so that the impact from the conveyor rise is small and the conveyor stops smoothly.

The adjustment is complete.

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