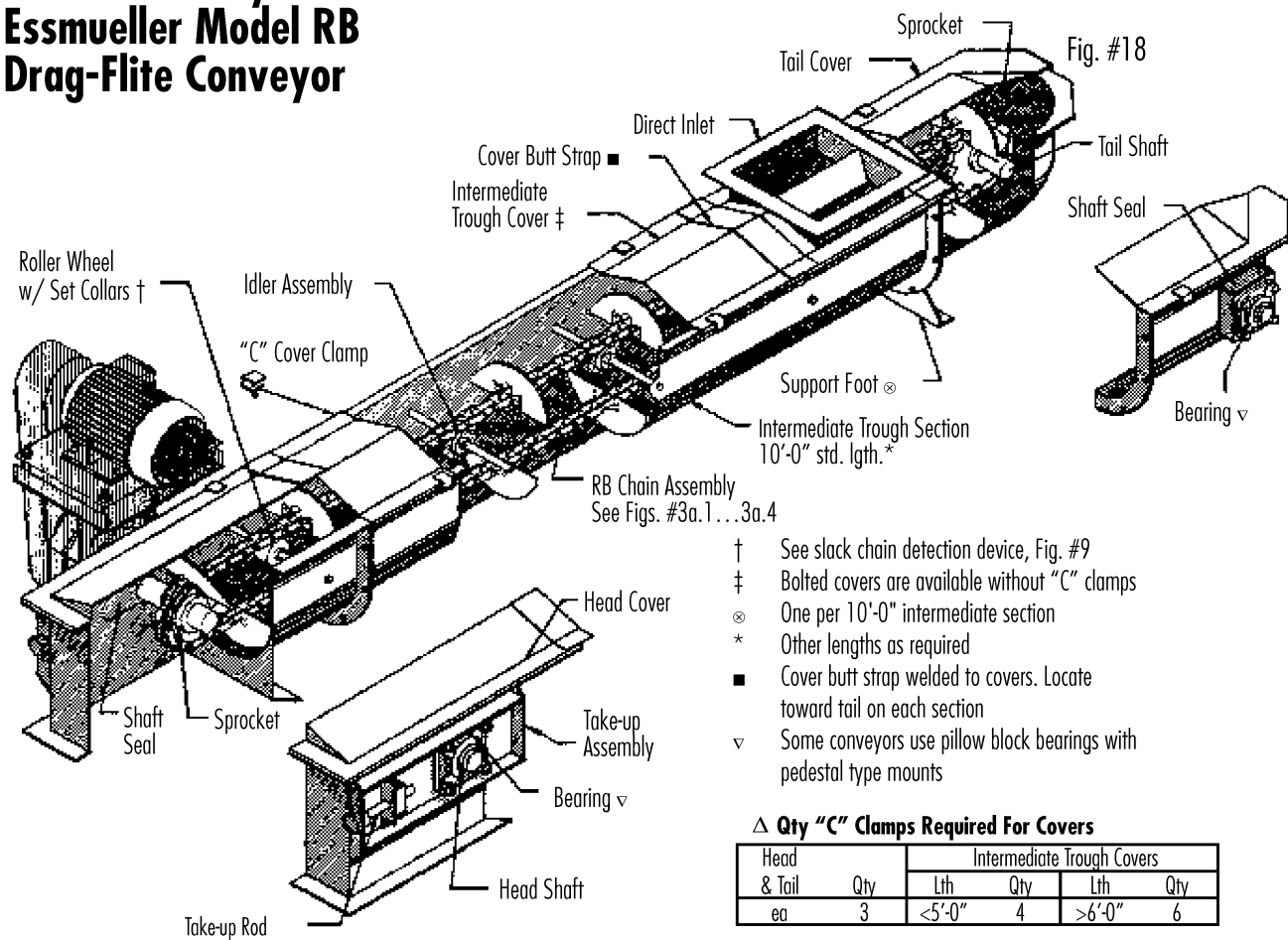
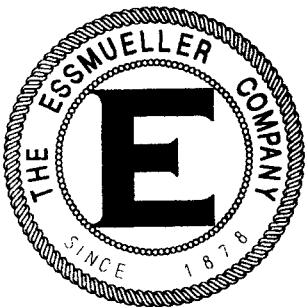


Parts Assembly For
Essmueller Model RB
Drag-Flite Conveyor



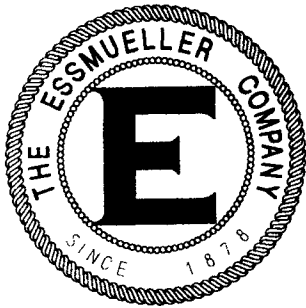
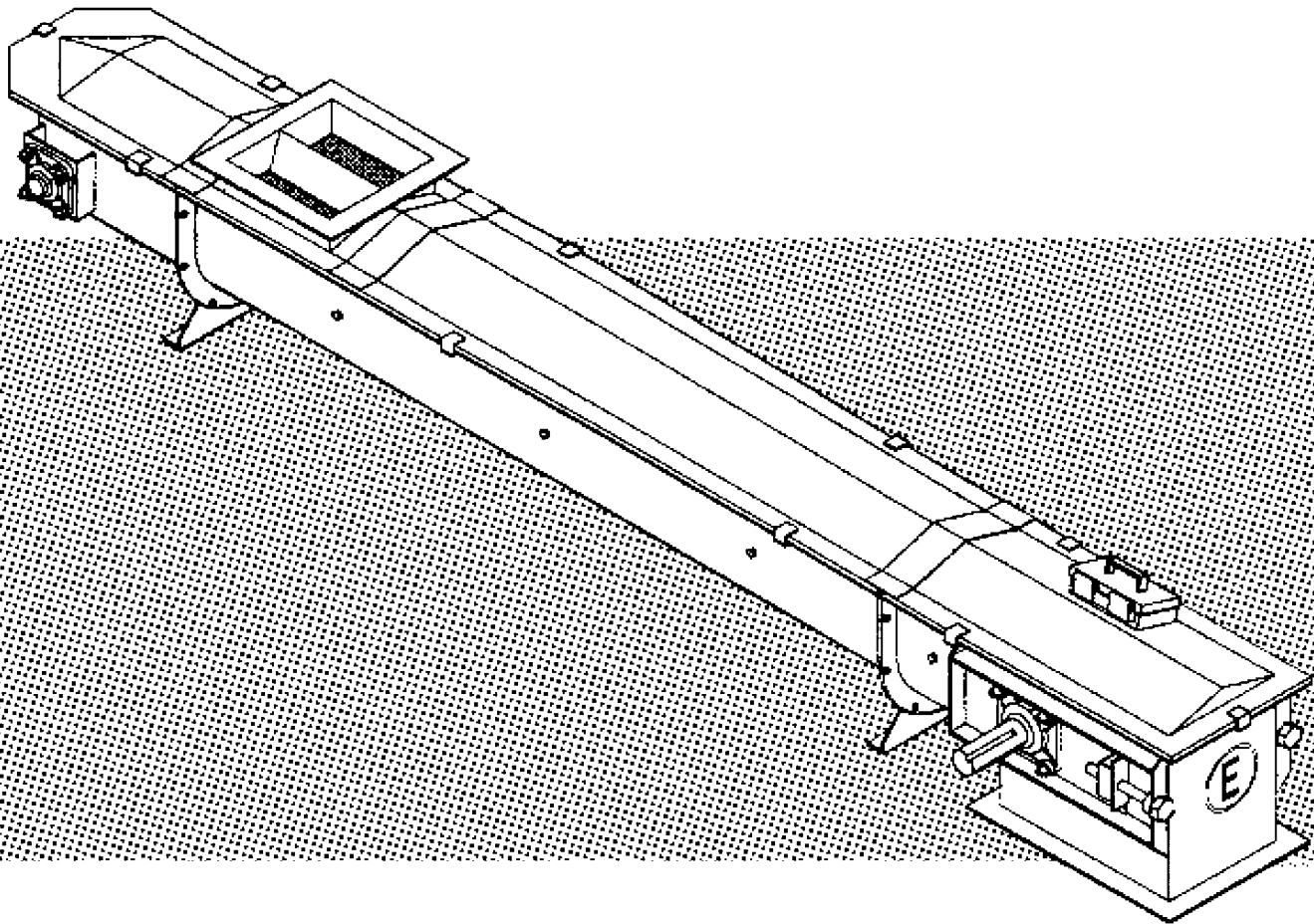
See this conveyor operate at our website: <http://www.essmueller.com>



The ESSMUELLER Company
"Since 1878"

P.O. Box 1966, Laurel, Mississippi 39441-1966 USA
Anywhere in the United States PHONE TOLL-FREE 1.800.325.7175
FAX 601-649-4320
www.essmueller.com

Installation and Maintenance Manual



Model RB
Drag-Flite Conveyor

Introduction

Your Essmueller conveyor is a piece of quality equipment. It has been designed to provide years of trouble-free service. Durability and performance are the results of the engineering skill, craftsmanship and quality materials that go into Essmueller products. This manual contains instructions for installation, operation, and maintenance of our Round-Bottom Drag-Flight Conveyors. With proper installation, a careful awareness for safety, and periodic checks for maintenance, you can expect many years of satisfactory performance.

Safety Responsibility

It is the responsibility of the contractor, installer, owner, and user to supplement materials and services furnished by The Essmueller Company with necessary items to make the conveyor installation comply with the law. Electrical controls, machinery guards, railings and walkways are some of the necessary components of a safe workplace.

Essmueller Round-Bottom Drag-Flight Conveyors are not normally designed to handle hazardous materials or operate in a hazardous environment. Hazardous materials include those that are explosive, inflammable, or toxic. Special construction is usually required, and The Essmueller Company should be consulted for all such installations.

Most accidents are the result of someone’s carelessness or negligence. When installing the conveyor, the following minimum provisions should be followed in order to avoid an unsafe or hazardous condition.

- 1. Essmueller conveyors should not be operated until the conveyor is completely enclosed and power transmission guards are in place. If the conveyor is to be opened for inspection, cleaning, or observation, the motor driving the conveyor is to be locked out electrically. This should be done in such a manner that it cannot be restarted by anyone, however remote the area, unless the conveyor housing has been closed and all guards are in place.
- 2. Feed openings shall be constructed in such a way that the conveyor is covered by a grating. If the nature of the material is such that a grating cannot be used, then the exposed section of the conveyor is to be guarded by a railing and there shall be warning signs posted. The entire conveyor is to be guarded by a railing if the conveyor must have an open housing as a condition of its use and application.
- 3. Do not use a rod or stick to poke material into the conveyor.
- 4. Do not walk on top of the conveyor. Do not remove power transmission guards. Do not place hands or feet in any of the conveyor openings. Do not overload the conveyor or use it for materials other than it was designed to handle.
- 5. Always practice good housekeeping. Keep areas around the conveyor and drive unit free and clear at all times.

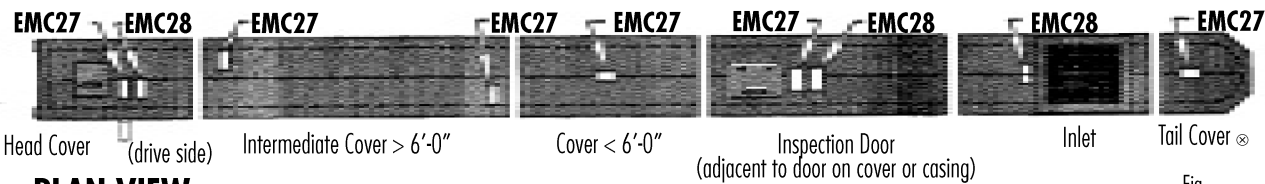


SAFETY: Essmueller subscribes to the standards of the ANSI Safety Sign Standard program as administered by the Equipment Manufacturers Council of the American Feed Industry Association (AFIA). Essmueller Equipment will be labeled in accordance with this program, on all removable covers, guards, inspection doors, end relief doors, inlets, discharges, and all head and tail sections. See pages 8 to 10 for additional information.

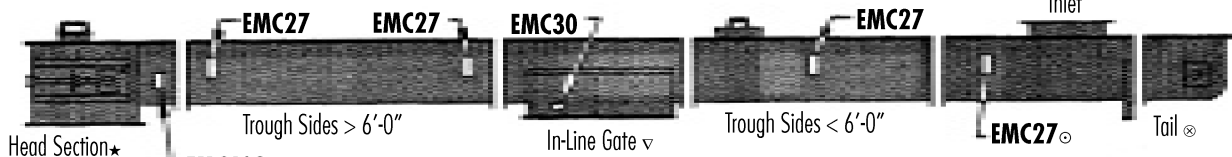
If the owner or installer needs help in designing a safe installation and a safe working place, The Essmueller Company will be glad to assist in selection of special devices, equipment, and signs. This includes “Lock-Out Tag-Out” procedures and enclosure of hazardous components. Our end relief door with limit switch can be used to shut off power to conveyor when the material discharge is interrupted or the conveyor becomes plugged and overloaded. We can also furnish zero-speed switches and/or slack chain detection devices to shut off power. This is essential in the event the conveyor is stalled due to the presence of foreign material or if for some reason the drive end of the conveyor is still running while the opposite end has stopped- See Figs. #10a ... #10f and #14.

Warning Sign Locations

If equipment is repainted on-site, safety stickers need to be replaced in locations indicated.

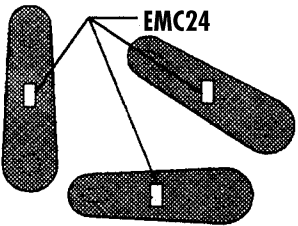
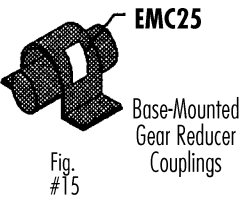


PLAN VIEW



SIDE VIEW

Intermediate Trough Sections



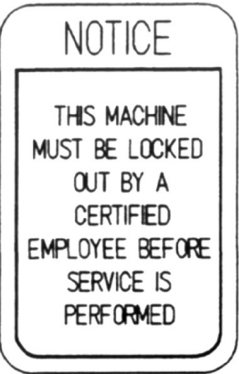
EMC30 Discharge and Side Gate Sides: each side for best vision. All covers for best vision.

Refer to chart for sign replacement on repainted equipment. Use largest sized decal that area will allow .

NOTES-Warning Sign Locations:

- “RB” Drag-Fite Conveyors
- Each side of conveyor
- ▽ Electric, Manual and Pneumatic
- ★ Fixed or Take-Up Head
- ⊗ Take-Up or Contour Tail

CEMA Safety Signs and Decals



EMC402 Locate as shown in diagrams.

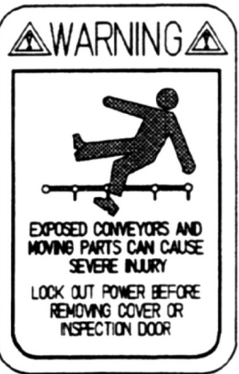
Fig. #15



EMC25 On guard near fastener or top. Large or sectional guards may require more than one sign-locate at each end and on top or on each section. Applies to “Scoop-mount” gear reducer couplings.



EMC24 On guard face near fastener or top. Guards larger than 3’ or in more than one EMC28 section-on each end and on top or on each piece. Applies: gear reducers, gate drive reducers.



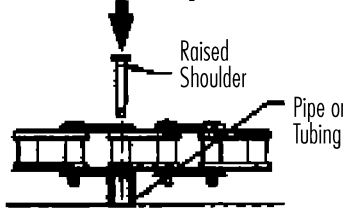
EMC27 Hinged access doors, including relief lids: adjacent to door if possible else on door. Discharge trough: both sides of conveyor (center each section). Removable access panels, lids, covers: center if less than 6’, diagonal on end corners if longer.



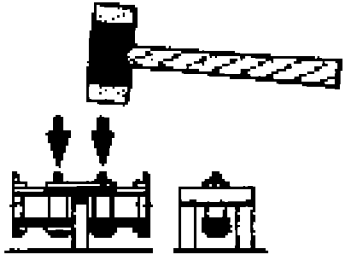
EMC28 Locate as shown in diagrams.

Chain Assembly Procedure

Fig. #12

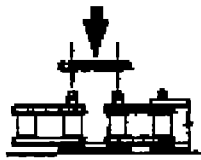


Assembly of engineering steel straight link chain with shouldered pins Fig. #3a.15...#3a.4



Assembly of steel bushed rollerless or other engineering steel chains requiring connection with link pin assemblies.

Read Pg. 5, para 9, 10.
Information courtesy
American Chain Association (ACA).



Installation of connecting links of roller chain

GIVE FIRST PRIORITY TO SAFETY EQUIPMENT AND PROCEDURES (FOR EYES, EARS, ETC.) WHEN WORKING ON CHAIN

Drive Assembly – Torque Arm Reducer

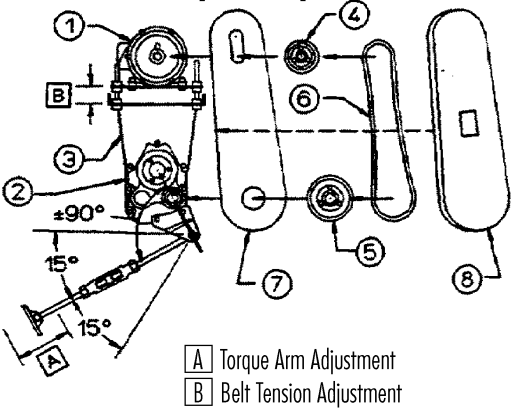


Fig. #13

(1) MOTOR
HP: _____
FRAME: T- _____
1750 RPM _____
VAC: _____

(2) TORQUE-ARM REDUCER
SIZE: TXT- _____
CLASS: _____
BUSHING: _____
SHAFT DIA: _____
OPTIONS: _____

(3) MOTOR-MOUNT
SIZE: _____

(4) DRIVER SHEAVE
GROOVE: _____
SIZE: _____
OD: _____
BUSHING: _____
DIA: _____

(5) DRIVEN SHEAVE
GROOVE: _____
SIZE: _____
OD: _____
BUSHING: _____
DIA: _____

(6) BELT(S) _____
QTY: _____
SIZE: _____
NO. _____

(7) INSIDE GUARD COVER*
(8) OUTER GUARD COVER*

* Brackets by others

"Dodge Reliance" TXT-series components shown. Your assembly will vary with use of other manufacturers' products

When fabricating torque-arm bracket, for best results stay within the manufacturer's limits for offset angle and length, shown here. In most cases, the torque arm may be mounted as shown, or reversed, without affecting performance or service life.

Notes...

Essmueler Model RB
Drag-Flight Conveyor

To insure maximum performance and trouble-free service from Essmueler equipment, install and maintain Round-Bottom Drag-Flight Conveyors in accordance with the following instructions.

A. Shipment

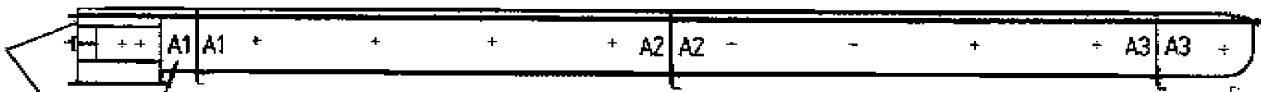
1. Tail Section will be shipped completely assembled.
2. Head Section will be shipped completely assembled with bearings and sprocket.
3. Trough will be assembled and shipped in 10'-0" long intermediate sections when possible. Most installations will require one or more special length section(s).
4. Chain is assembled in standard 10'-0" lengths, each with connecting pins and "T"-head cotters. It is usually necessary to furnish one partial length of chain less than ten feet long.
5. Flights and flight fasteners are boxed separately.
6. Assembly bolts will be boxed and identified.
7. Inlets are assembled on trough sections at the factory except when they are to be located and installed in the field, as specified by Customer's Purchase Order or instructions.
8. Discharge gates, when required, are fitted to trough sections at the factory. Hand wheels and chain wheels, when furnished, will be placed in a parts crate for shipment.
9. Drive components and guards for motorized gates will be completely assembled on gates.
10. When air-operated gates are ordered with air cylinders, solenoid valve, and limit switches, these items will be shipped assembled on gates.

11. Conveyor drive, when furnished by Essmueler, will be shipped as loose components unless factory assembly is specified. The drive is shipped dry. It must be filled in the field with a lubricant recommended by the drive manufacturer (instructions are included).

B. Field Assembly

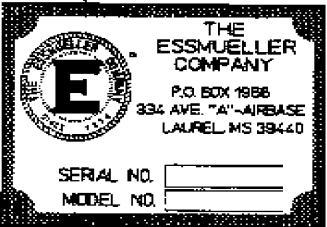
1. Refer to Assembly Drawings furnished by The Essmueler Company (Fig. #1). These were drawn especially for your application and approved by a purchaser's representative prior to production of the equipment. **DO NOT** attempt to install the conveyor without these assembly drawings. Essmueler will send new copies if originals are lost.
 2. Start the assembly by locating the head section. Attach the discharge flange to the mating flange of chute or equipment which is to receive material from the conveyor.
 3. Locate intermediate trough sections in positions shown on the assembly drawing, Refer to match marking on the drawing and on individual trough sections.
 - 4a. When assembling conveyor sections, apply caulking compound at each "U"-flange joint. Align bottoms of each section to insure they are flush and inside surfaces are smooth. Then, tighten flange bolts and remove excess caulking.
 - 4b. Conveyors with chain return rails: secure ends of return rails with included splice bars. Make sure the upper surfaces (wear plates) of return rails are aligned and splice bar bolts are tight.
- ♦ Improperly aligned trough sections will result in excessive noise and damage to flights.

Match Marked Assembly Drawing



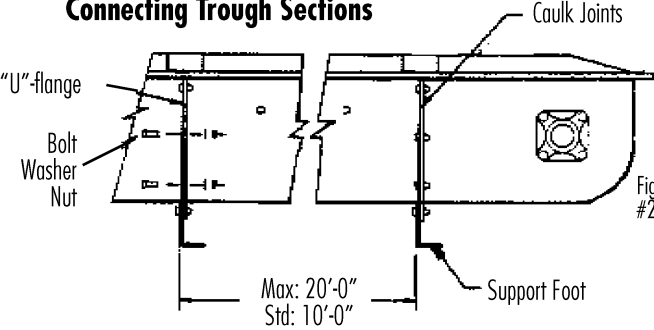
Match Marks: actual location may vary. Multiple conveyors will have individual marks: A1...A9, B1...B12, C1...C4, etc.

Example only. Actual assembly drawing will be dimensioned, and will include bend sections, intermediate discharge gates, inlet(s), etc.



For inquiries and correspondence, refer to **Serial No.** and **Model No.** noted on conveyor name plate.

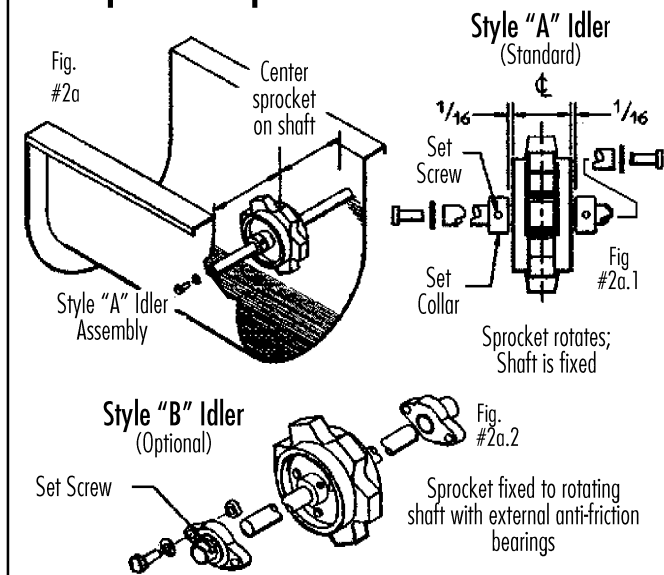
Connecting Trough Sections



5. The conveyor should be supported at or near "U"-flanged trough joints. Supports should be spaced not more than twenty feet (20'-0") apart. Support feet, when purchased, are shipped loose, one for every intermediate section. Pg. 3, Fig #2.

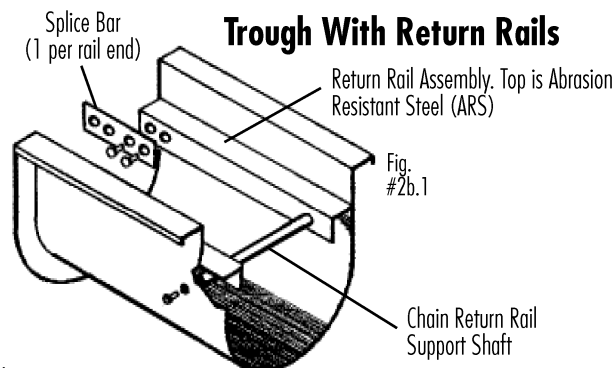
6a. In conveyors equipped with Style "A" return idler sprocket assemblies, the plastic sprocket fits loosely between two set collars (Fig. #2a. 1). A gap of approximately $\frac{1}{16}$ " is allowed on both sides of the sprocket. This minimizes heat buildup. **DO NOT** tighten set collars tightly against the idler sprocket hubs.

Idler Sprocket Adjustment



6b. Some Round Bottom Conveyors are equipped with chain return rails. Return rails are angle iron with Abrasion Resistant Steel strips welded to the upper surfaces. Support shafts are welded to return rails as a unit and bolted into the trough.

7a. Check all sprockets and bearings on head, tail, and trough sections. Make certain set screws are tight

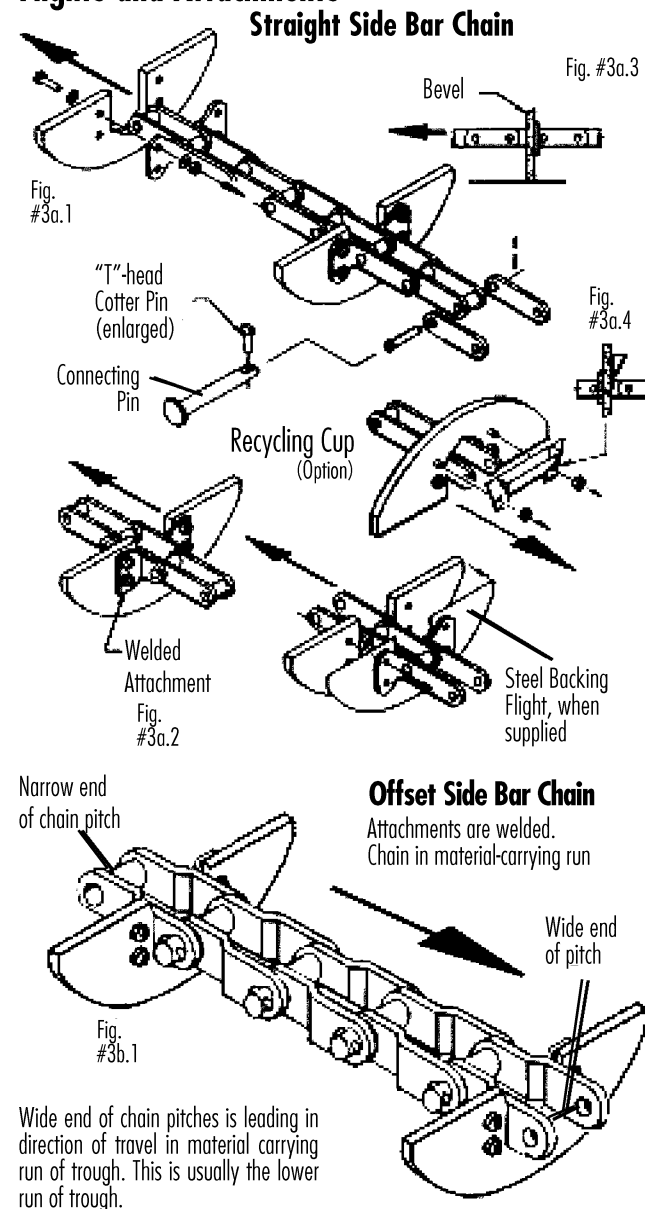


on shafts. Check head and tail sprockets to see that they are centered in the trough.

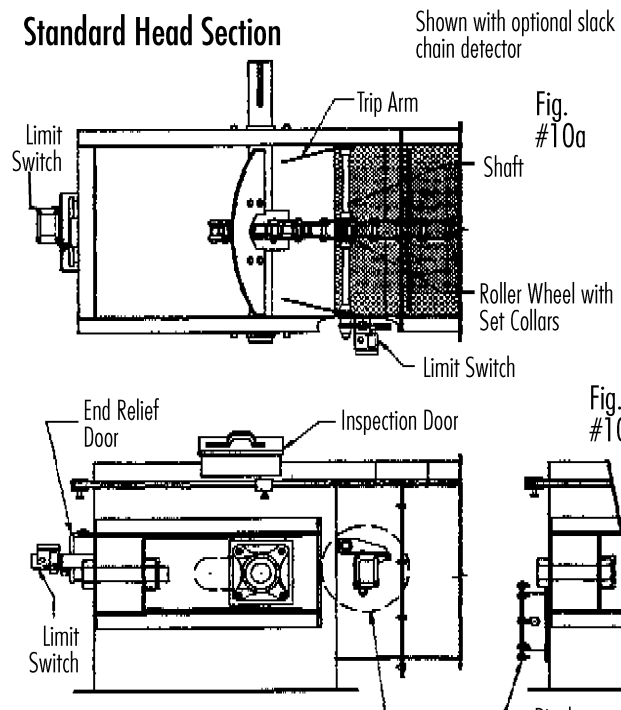
Every effort has been made at the factory to insure that all bolts, set screws, and sprockets have been properly installed and tightened, however, some loosening may occur during shipment.

7b. **Conveyors with chain return rails:** ends of return rails in adjacent trough sections are connected with splice bars. Top surfaces of return rails must be flush to prevent noise, vibration, and damage to flights. If ends are found to be uneven, loosen splice bar bolts. Use a "C" clamp to align return rail top surfaces, and retighten splice bars. Make sure end bolts of return rail support shafts through trough sides are in place and tight.

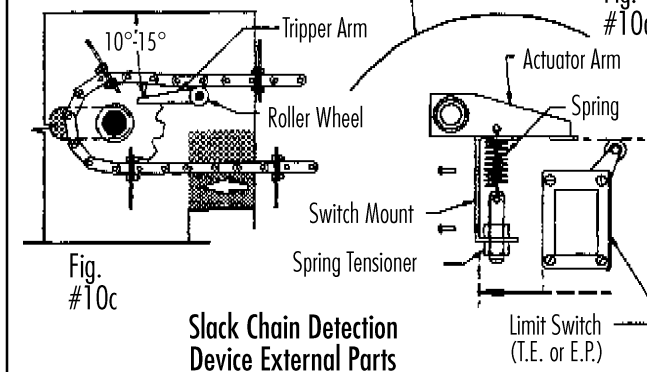
Flights and Attachments



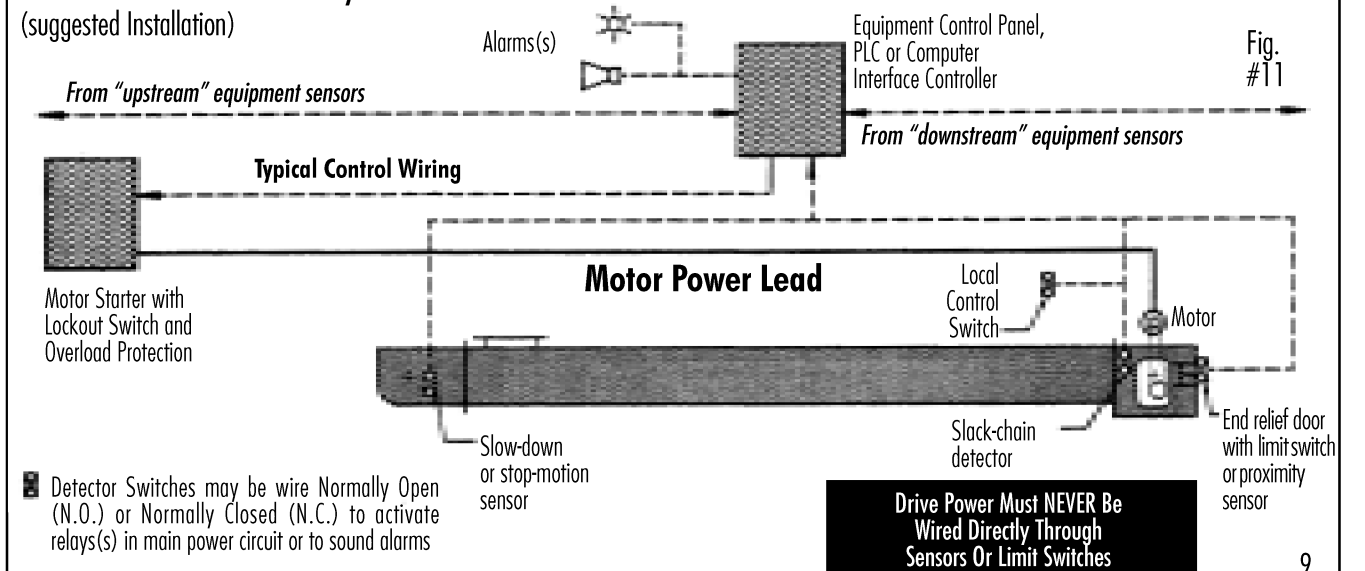
Standard Head Section



Slack Chain Detection Device Internal Parts



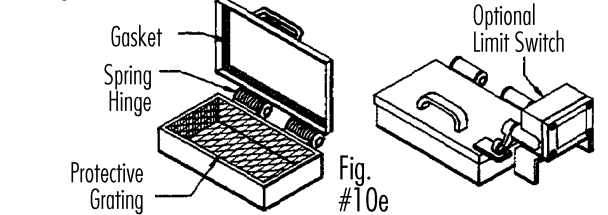
Possible Sensors In Control System



Safety Options

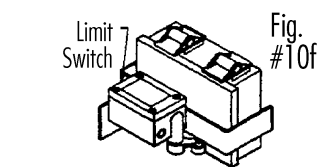
End relief door with limit switch can be used to shut off power to the conveyor when discharge is interrupted or the conveyor becomes plugged and overloaded. Essmuller can furnish zero-speed switches and/or slack-chain detection devices to shut off power or activate alarms in the event the conveyor is stalled due to the presence of foreign material or if, for some reason, the drive end is still running while the opposite end has stopped.

Inspection Door



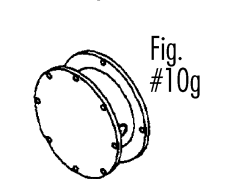
Inspection Doors are available for head, intermediate sections, or tail. Limit switches can be furnished (T.E. or E.P./X.P.) for inspection door Lock-Out/Tag-Out protection.

End Relief Door



End Relief Door (Option) can allow material to divert to overflow pit if head discharge is plugged. Main function is to trip alarm or shut down equipment. Door does not open for access. Sensors are T.E. or E.P. as required. Use eye protection if opened while conveyor is operating.

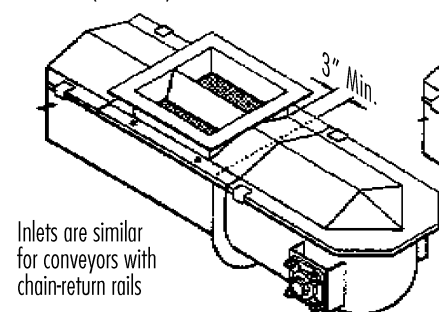
Diaphragm Sensor



Diaphragm Sensor (option) is available T.E. or E.P. Adjustable counterweight to select sensitivity. Proximity type sensor is available.

2. If it is necessary to locate inlets on bend sections, special procedures must be used. Consult Essmueller for instructions. Avoid locating inlets on bend sections, if possible.
- 3a. The "Direct" inlet is standard for Drag-Flight conveyors. It is designed for use when material flow is controlled or metered before reaching the inlet. Multiple inlets may be installed if they are to be fed individually.
- 3b. "By-Pass" inlets are available to minimize carry-over, or where conveyor is to be flooded (as below a
- 3c. "Pan Feeder" inlet admits material of pre-metered capacity into the trough. An adjustable plate allows 'fine-tuning' flow as required. Dimensions 'A' and 'B' are critical, and must be maintained whenever an inlet is relocated for some reason.
- 3d. All inlet types are available with extended length openings or hoppers.

Direct Inlet (Standard)



Inlets are similar for conveyors with chain-return rails

By-Pass Inlet

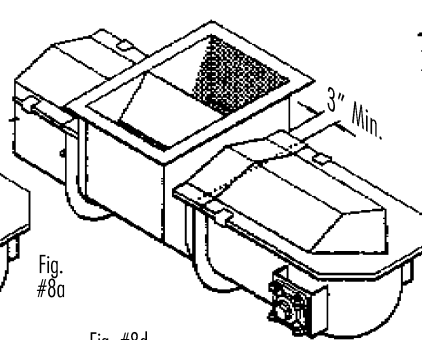
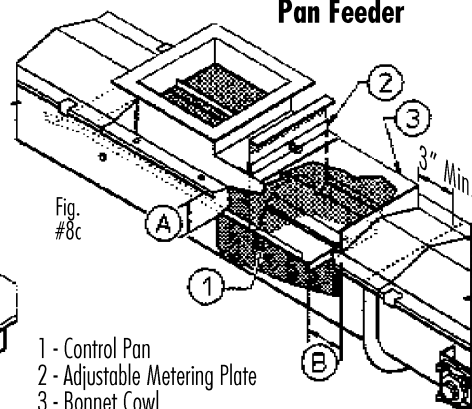


Fig. #8d

100% Capacity Pan Feeder

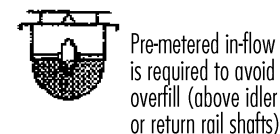


- 1 - Control Pan
2 - Adjustable Metering Plate
3 - Bonnet Cowl
A - Top of Pan To top of Trough Flange
B - End of Control Pan to End of Bonnet

| RB | A | B | RB | A | B |
|----|--------|---|----|---------|----|
| 6 | 2 1/2 | 3 | 16 | 6 9/16 | 6 |
| 9 | 4 1/8 | 3 | 18 | 7 1/16 | 7 |
| 12 | 5 1/16 | 4 | 20 | 8 5/16 | 7 |
| 14 | 5 5/8 | 5 | 24 | 9 11/16 | 11 |

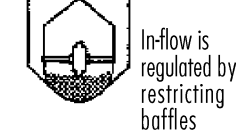
General Information on Inlets

Direct Inlet



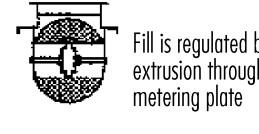
Pre-metered in-flow is required to avoid overfill (above idler or return rail shafts)

By-Pass Inlet



In-flow is regulated by restricting baffles

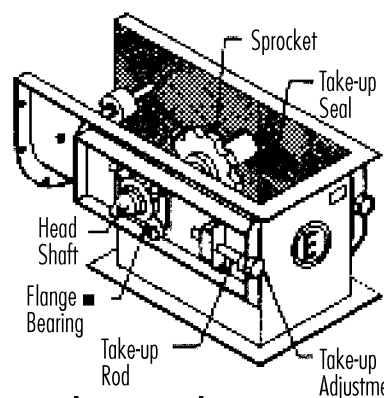
Pan Feeder



Fill is regulated by extrusion through metering plate

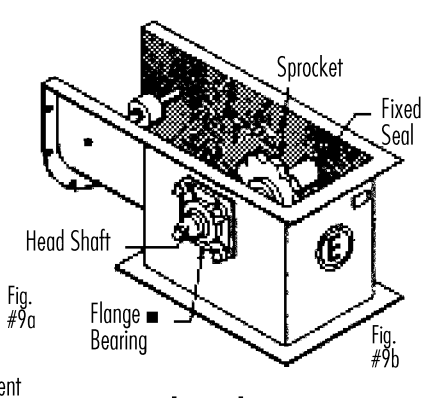
Dimensions and specifications are subject to change without notice. Conveyors are fabricated products, therefore Essmueller cannot guarantee dimensions with very tight tolerances. Every effort is made, however, to hold measurements as close as is reasonably possible.

Drag-Flite Head Sections



Take-up Head

Note: Conveyors are shown with covers removed for illustration purposes. Do not operate conveying equipment without covers.



Fixed Head

Take-up Head: used with contoured tail section for maximum carry-away of material at tail.

Fixed Head Section: used with take-up tail in long conveyors with heavy, fixed drives, and where access to head is restricted. Conveyors longer than 100'-0" may have a T-U head and a T-U tail.

- Long conveyors may utilize pillow block bearings with "pedestal" type mounting bases, either horizontal or vertical.

8a. Chain attachments may be formed (bent) extensions of sidebars or welded to sidebars. Flights are bolted as in Fig. #3a.1. The notch in U.H.M.W. flights must be facing "up" on the bottom strand of chain, bevel toward discharge end of conveyor (Fig. #3a.3).

8b. **Offset sidebar chain** in one-directional conveyor: install with wide end of each chain pitch as the leading end in direction chain is pulled in the material-carrying (usually lower) run of trough. In **reversing** conveyors, the wide end of each chain pitch should be the leading end in the most often used direction in the carrying run of trough.

8c. **Recycling cups** (option) return carry-over material and return it to the material flow. They are installed on the front face of flights in the direction the chain is pulled. The cup opening is toward the bottom on the lower run of chain.

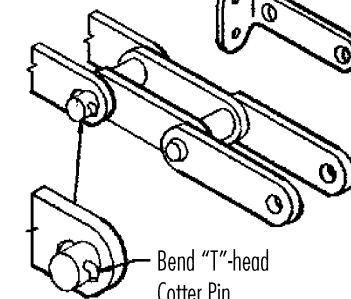
9. Each section of chain requires two connecting pins which are sized for a drive fit into the chain link sidebars. Before installing, pins should be lubricated with S.A.E. 30 motor oil. When driving connecting pins in or out of chain links, place heavy backup plates against both sidebars of the link, on the side opposite the driving force. See Pg. 10, Fig. #12. After connecting pins are in place, insert "T"-head cotter pins into holes in ends of connecting pins and drive firmly into place. The small end of "T"-head cotter pins should be bent over to prevent them from working out. (Fig. #3a.4)

Chain Attachments (straight sidebar chain)

Fig. #3a.4

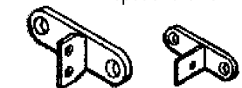
Formed Attachment

Standard for most RB Conveyors



Welded Attachment

Certain conveyor sizes and with special chains

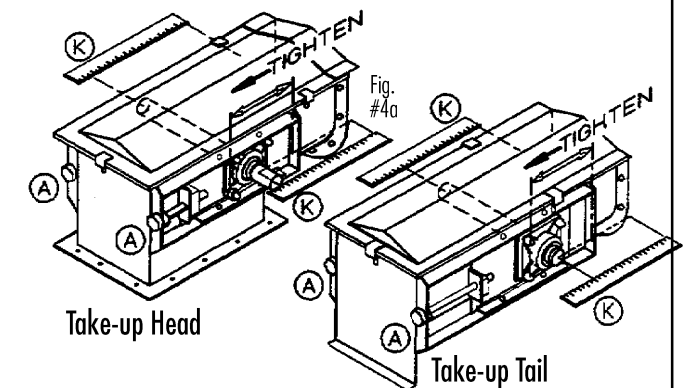


RB-6 Only

All offset sidebar chain attachments are welded

10. Proper chain tension is extremely critical to life and operation of the conveyor. Adjust screw take-ups as far as they will go toward the flanged (trough) end of take-up head or take-up tail. Take-up shaft must be perpendicular (90°) to conveyor centerline. Check by measuring from shaft to "U"-flange on each side of conveyor. See Pg. 5, Figs. #4a, #4b, #4c. Adjust screw take-ups (A) until both sides are equal.

Take-up Adjustment



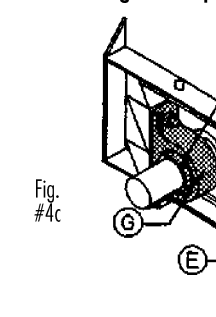
- (A) Equal Turns of Bolts To Adjust Tension
(K) Measure Shaft From "U"-Flange Until Chain Is Taut And Shaft Is Perpendicular To Trough.

11. Adjust screw take-ups away from the center of the conveyor, using an equal number of turns to each adjustment bolt A. This should remove most slack from the chain. Re-measure K to check that take-ups are equally spaced on each side. If take-ups do not have sufficient travel to remove slack, return them to the position nearest the flanged (trough) end of take-up head or take-up tail. Remove necessary number of chain links from take-up section and re-tension chain.

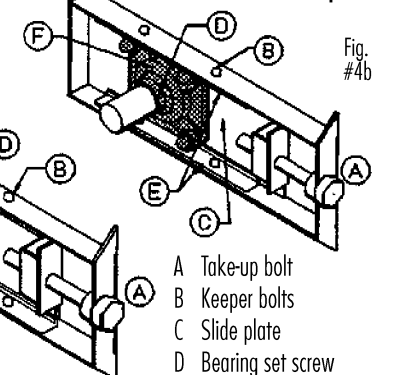
If take-up slide plate C is loose or leaking, loosen all keeper bolts B and bearing set screws D on both sides of conveyor. Top keeper bars E against slide plate until it is snug against head or tail housing. Retighten keeper bolts B and bearing set screws D. It is normal for the top chain to sag 1/2" to 1" between

Take-up Assembly Typical for Head or Tail

Pillow Block Bearing Take-up



Flange Bearing Take-up



Flange Bearings are standard on most conveyors. Pillow Block Bearings are used with large or special bearings. Take-up Assembly is similar for Take-Up Head or Tail.

- A Take-up bolt
B Keeper bolts
C Slide plate
D Bearing set screw
E Slide keeper bar
F Flange bearing
G Pillow block bearing

idler sprockets when bottom chain is stretched tight. DO NOT tighten chain too taut, as this will result in excessive wear and vibration, particularly on conveyors with bend sections.

12. Check fixed shaft (in fixed head or contour tail) alignment to be sure it is perpendicular to conveyor centerline. Measure from shaft to trough connecting flange. If adjustment is required, loosen bearing mounting bolts. This allows a degree of movement (about $\frac{1}{16}$ ") so that both sides may be equalized.
13. **MotoReducer With Roller Chain Drive:** Mount reducer assembly to drive support. If equipped with slide base or rails, reducer should be as close to the headshaft as possible. Reducer output should be parallel and level with conveyor headshaft. Disassemble oil-tight chain casing and install shaft seals onto headshaft and reducer shaft. Install roller chain drive sprockets in line with each other.

Check alignment by laying a straight edge along the sprocket plates just above the hubs. Adjust sprockets if necessary so straight edge is flat the full length along both sprocket plates. Install roller chain over sprocket and join ends by using connecting links.

Adjust chain tension to provide a maximum of $1\frac{1}{2}$ " sag on bottom run when top run is stretched tight.

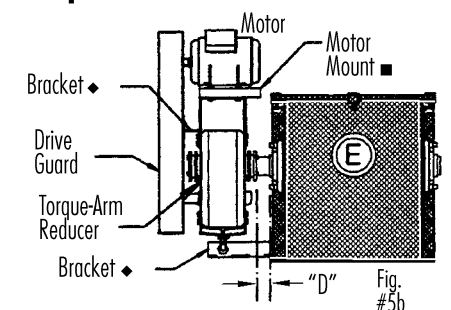
Sag should be checked midway between sprockets. Install bottom half of chain casing. Install motor and high-speed coupling as detailed in coupling installation instructions. Fill reducer, high-speed coupling and oil-tight chain case with proper lubrication, Pg. 6 Fig. #5a, and close top half of chain casing.

14. **Shaft Mount Reducer With V-Belt Drive:** Mount reducer assembly to headshaft and tighten set screws (or bolts for tapered bushings). Fabricate and mount torque arm mounting bracket to conveyor (Fig. #5b). Torque arm should be located at approximately a 90° angle to a line through the reducer hollow shaft and reducer tie rod attachments, Pg10, Fig #13. Fill reducer with proper lubricant (see manufacturer's instructions furnished with equipment). Bolt motor mount to reducer and tighten. Install motor on mounting base. Mount rear half of V-belt guard, field fabricate attachment brackets. Mount V-Belt sheaves and belts.

Tighten V-Belts using adjustment screws on motor mounts. Install front half of V-belt guard.

| Chain Casing Lubricant | | FIG. #5a |
|-------------------------------|-------------------|-------------|
| TEMPERATURE CONVERSION | | RECOMMENDED |
| FAHRENHEIT= CELSIUS LUBRICANT | | |
| F 20° ... F 40° | = C -7° ... C -4° | SAE 20 |
| F 40° ... F 100° | = C -4° ... C 38° | SAE 30 |
| F 100° ... F 120° | = C 38° ... C 49° | SAE 40 |
| F 120° ... F 140° | = C 49° ... C 60° | SAE 50 |

Torque-Arm Reducer Installation



- Adjustable type "T-A" motor mount shown. Fabricated mount is used on large motors.
- ◆ By others except factory-mounted drives

| Minimum Bolt Clearance Dodge "TA" Series Reducer "D" | |
|--|--------------------|
| TA107L | $1\frac{1}{16}$ " |
| TA107H | $1\frac{1}{32}$ " |
| TA1215H | $1\frac{1}{32}$ " |
| TA3203H | $1\frac{1}{32}$ " |
| TA4207H | $1\frac{1}{2}$ " |
| TA5215H | $1\frac{13}{16}$ " |
| TA6307H | $1\frac{13}{16}$ " |
| TA7315H | $2\frac{1}{16}$ " |
| TA8407H | $2\frac{1}{16}$ " |
| TA9415H | $2\frac{1}{16}$ " |
| TA12608H | $2\frac{1}{16}$ " |

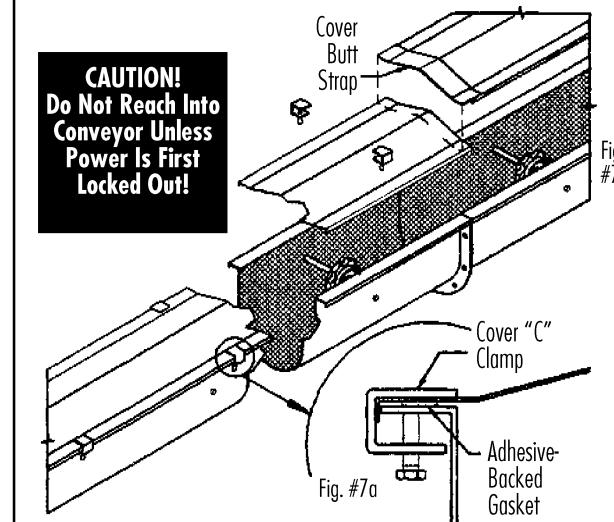
C. Pre-Start Checklist:

1. Fill gear reducer, if furnished by Essmuller, with proper lubricant (as prescribed in reducer documentation shipped with equipment).
2. Fill high-speed coupling, if furnished by Essmuller, with proper lubricant. (May be already filled if purchased from another source, but check it!)
3. Fill chain casing with lubricant per Fig. #5a, above.
4. Check all conveyor chain connecting pins to insure they are driven into side bars correctly, and that 'T'-head cotter pins have been bent over, Pg. 5. Fig. #3a.4.
5. Check that chain and flights are properly installed. See Pg. 4, Figs.: #3a.1 ... #3a.3.
6. Check that interior trough joints are flush and smooth, with no excess caulking.
7. Check that all flange bolts, drive mounting bolts, anchor bolts, etc. are tight.
8. Check to be sure all tools, etc., have been removed from inside the conveyor.
9. Check to be sure all guards, inspection doors, etc. are properly in place.
10. Check to be sure all set screws in head sprocket, tail sprocket, and idler keeper set collars (bearing set screws on style 'B' idlers) are tight.
11. Check to see that slack chain detection device arms are properly located and device is wired and operational (Pg. 9. Figs. #10 and #14). Upper edge should be angled downward 10° - 15° from horizontal.

D. Start-Up:

1. Carefully jog conveyor. Make sure motor is turning the right way! Run the conveyor through one complete cycle and observe closely for proper operation. Be prepared to **STOP** the conveyor drive if any unusual noise, stoppage, or obvious irregularity occurs. Lockout power to drive and check for bent flights. Check conveyor chain tension at the first intermediate section behind the head. If chain is loose, adjust screw take ups. If everything is satisfactory, install trough covers (Fig. #7), except one in front of the first inlet and one just before the head section. Use three pairs of "C" clamps to hold down each section of cover (three single clamps for head and tail sections). When personnel have been evacuated from areas near open trough sections, the conveyor will be ready for start-up!
2. Start conveyor and run with no load. Carefully observe chain action on idler sprockets where covers were left off the conveyor. Do not reach into the conveyor. Chain should sag slightly between idlers. If chain appears to be sagging too much, adjust screw take-ups until excess sag disappears. **REPLACE COVERS.** Allow conveyor to operate three or four hours **with no load**, occasionally checking chain action as detailed previously. Adjust screw take-ups as required.

Drag-Flite Trough Section



Roll(s) of adhesive-backed gasket rubber are shipped separately with conveyor. Gasket should be applied to inside of cover during assembly.

3. The conveyor may now be operated under load. Immediately upon loading running conveyor, check chain action and adjust take-ups if necessary.

Observe flow of material in the trough. It should clear the underside of idler shafts. If material touches the shafts, input flow must be restricted. Check chain action frequently during the first week of operation and adjust take-ups as necessary. Replace covers each time the conveyor is put back into operation.

4. When conveyor is first started under load, the carried material may be slightly sluggish near edges of the trough. This may be due to scale on the steel troughing, which creates additional friction. The carried material will polish the inside of the trough quickly and eliminate excess friction. Thus, material will soon move freely.

E. Maintenance:

1. Head and tail shaft bearings should be checked approximately every 250 hours of operation and lubricated as required. Style "B" idler bearings, if used, should also be checked and lubricated.
2. Gear reducer oil level should be checked every 150 hours of operation (more often if leakage is observed). Oil should be changed in accordance with manufacturer's recommendations (consult manual shipped with the equipment).
3. Check oil level in chain drive casing (if so equipped) every 150 hours of operation. Also check and adjust drive chain tension.
4. Check conveyor chain frequently for sag while under load (see para. D, #2 and #3), and adjust as necessary. Users should establish a schedule for checking chain tension in accordance with his application and usage. Essmuller suggests, after initial chain break-in, checking at least once a day until an adjustment pattern has been established.
5. Check internal conveyor sprockets for proper location every 250 hours of operation. Check and tighten set screws if required. Check tooth profile for excessive wear. Worn teeth may cause chain failure.

F. Conveyor Inlets:

When field mounting inlets, several general rules apply. Contact Essmuller for specific applications.

1. Drag-Flight Conveyor inlets should never be placed closer than 3" to tail section flange. See Figs. #8a ... 8c as applicable. Inlets may be placed at intermediate locations wherever required.