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Drop-In Gas Sealing Support System

Installation, Operation & Maintenance Manual

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TOLL FREE 1800 074 446 FROM ANYWHERE IN AUSTRALIA VSS TOLL FREE 1800 300 877		

WARRANTY

ESS warrants the **Inline Premium Secondary Cleaner** to be free of defects both in materials and workmanship for a period of 12 months from the date of despatch of the product from the *ESS* factory. The warranty given by *ESS* in this regard will extend only to replacing or repairing product shown to be defective.

The warranty is also subject to the following restrictions:

a) Installation of the product contrary to the instructions contained in the supplied manual will void such warranty absolutely;

b) The warranty will not extend to any liability for injuries incurred and which result from the use of the product contrary to the instructions in the manual;

c) Save as prescribed by law, *ESS* will not be liable for any damage sustained by a purchaser or a third party by way of consequential loss arising out of defects in the product.

You are asked to note that *ESS* offers purchasers a service whereby either:

It will install the product and certify the correctness of such installation, or

Certify the correctness or otherwise of the installation of the product by third parties.

This certification service is designed to ensure that you obtain the full benefit of the *ESS* warranty hereby provided. If you would like to take advantage of the installation certification service provided, please contact *ESS* regarding the service.

Refer to the Final Checklist at the back of this manual.

Visit the *ESS* website www.esseng.com.au to register your product warranty.

CONTENTS

FIGURES

1.0 SAFETY

The ***ESS*** Drop-In GAS is designed to be quickly and easily serviced by appropriate personnel. Under no circumstances should servicing or installation of the cleaner be carried out whilst the belt is in operation.

The conveyor must be shut down and locked out before any person enters or reaches into the conveyor enclosure.

Ensure that only suitably qualified and trained personnel install and service this product. Ensure that all site and statutory safety procedures are followed.

1.1 SAFETY LABELS

Pictograph labels are used to show graphically where potential safety hazards exist around this product. These labels do not represent every possible hazard. They are not intended to be a substitute for safe work practices and good judgment. These labels and *ESS* technical manuals use specific words to identify the severity of the hazard. They are described below. Take time to read and understand the meaning of these words and symbols.

Danger labels call attention to imminently hazardous situations that will result in serious personal injury or death if not avoided. Injury from these hazards is immediate in nature and has a high probability of resulting in a serious or fatal accident if proper precautions are not followed.

Warning labels call attention to potentially hazardous situations that could result in serious personal injury or death if not avoided. Injury from these hazards is usually serious in nature, and a severe or fatal accident can occur if proper precautions are not followed.

Caution labels call attention to potentially hazardous situations that may result in minor or moderate personal injury if not avoided. Injury from these hazards is normally less serious than those from Danger or Warning hazards. However, there is still the potential for an accident resulting in serious injury if proper precautions are not followed.

2.0 INTRODUCTION

The ***ESS*** Drop-In GAS Belt Support System consists of low friction UHMW-Polyethylene bars supported by brackets that locate in the idler frame slots of removed rollers.

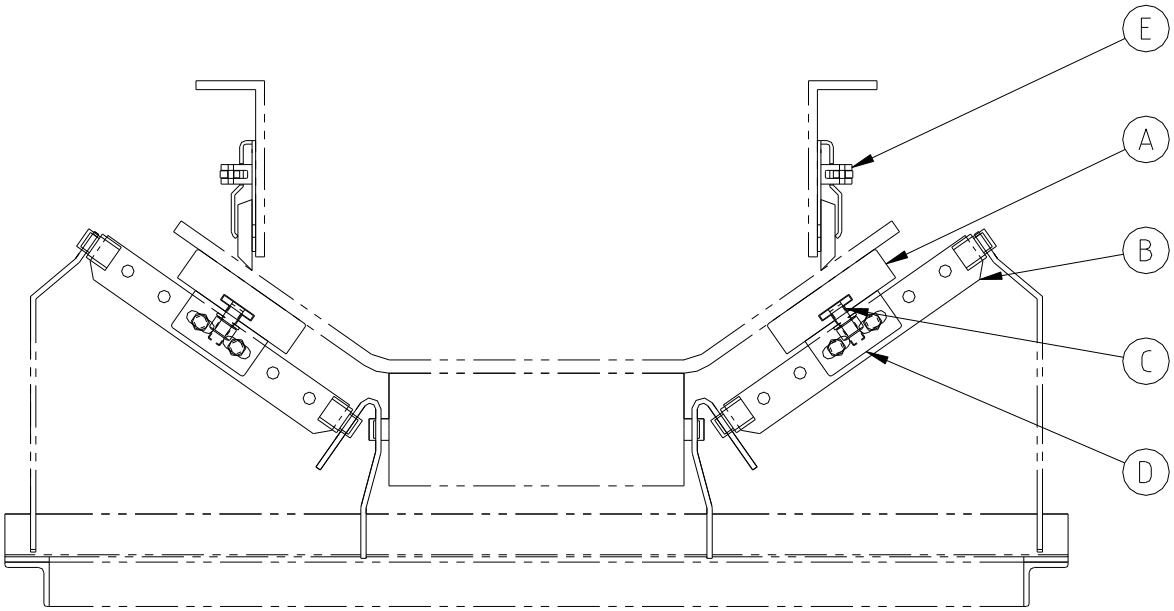


Figure 1 – Drop-In GAS

A	T-BAR
B	SUPPORT BRACKET
C	T-BOLT
D	T-BAR BRACKET
E	SKIRT

The ***ESS*** Drop-In GAS Belt Support System holds conveyor belts in a stable, sag free position to allow effective sealing. By minimising belt vibration and sag the Drop-In GAS Belt Support System reduces escaping material and risk of damage to the belt and conveyor accessories. GAS bars provide a low friction, self lubricating surface for conveyor belts to skim over without heat build-up or undue wear on the belt surface or bars. The ***ESS*** drop-In GAS Belt Support System is not intended to absorb impact.

3.0 INSTALLATION

STEP1
Determine approximate installation position for each Support System on the conveyor and place the appropriate Systems adjacent to the installation area.

STEP 2
Before commencing installation or any work around the conveyor belt ensure that the belt is isolated and tagged.

STEP 3
The ***ESS*** Drop-In GAS Belt Support System is intended to be installed using existing idler troughing assemblies. Multiple Support Systems will have an idler trough assembly between each successive System. Ensure that the idler assemblies are either already installed or available at the installation site. If the idlers are already installed, check that sufficient clearance is available between successive sets of rollers to fit a Support System. Standard Systems are 1200mm long and require supports at approx 600mm centres (extra supports can be used if necessary on heavy applications- FIG 3) with 25mm clearance at each end between the bar and roller (Figure 2 - Standard Configuration). If required, the GAS Bars can be easily cut to suit on site.

STEP 4
Assemble the necessary tools and safety equipment required for the job.

NOTE: **BEFORE PROCEEDING WITH INSTALLATION, ENSURE THAT THE CONVEYOR BELT DRIVE IS FULLY ISOLATED AND LOCKED OUT.**

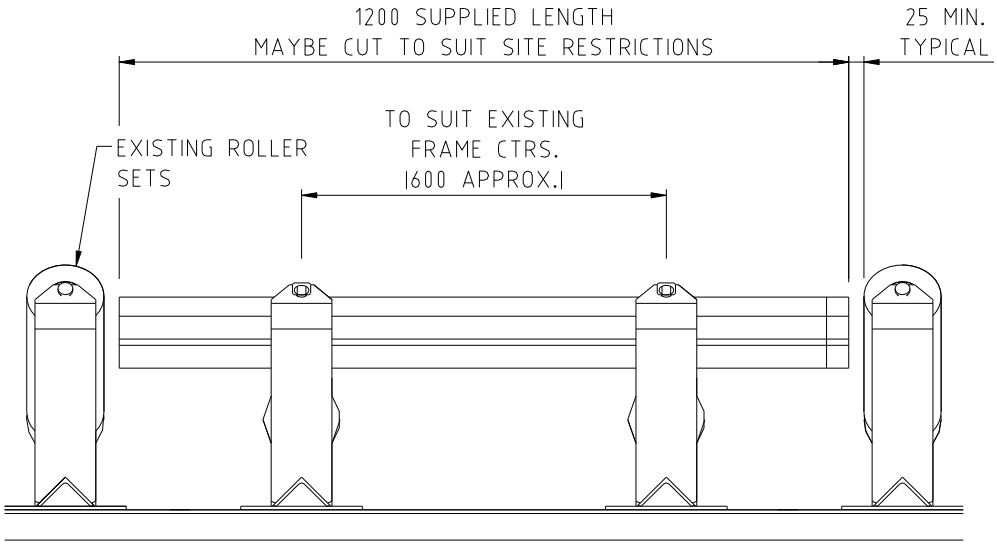


Figure 2 - Standard Configuration

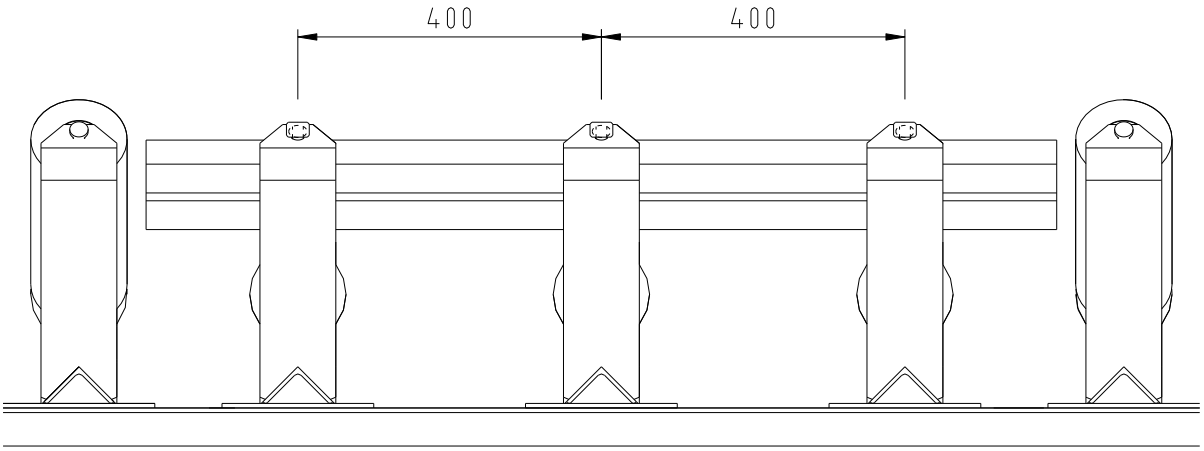


Figure 3 - Heavy Duty Applications

STEP 5
Determine the installation position for the Support System/s The System/s should be installed to cover the entire skirted section of the conveyor belt. Having determined the position of the first Support System remove the wing rollers from the supporting idler frames (leave central rollers in place) and ensure their correct positioning and fixing. Repeat for other support frame.

STEP 6
Having determined the position of the T-Bar under where the skirt will contact the belt, bolt T-Bar Bracket to Support Bracket. Place Support Brackets into removed roller slots and fix T-Bar. Depending on site restrictions this could possibly be installed as a complete unit.

STEP 7
If not already in position, install an idler set either side of the Support System ensuring that 25mm clearance will be available at both ends of the Drop-In GAS Bars (Figure 2 - Standard Configuration).

STEP 8 Repeat the above procedure for all subsequent Systems.

NOTE: IF YOU HAVE ANY PROBLEMS, OR ARE UNCLEAR ON ANY INSTALLATION STEP, CONTACT *ESS* ON OUR CUSTOMER SERVICE NUMBER 1800 074446.

STEP 9 Remove danger tags and return conveyor to service, following plant procedures.

4.0 COMMISSIONING

No special commissioning procedures are required for GAS Support Systems. Provided the Systems are installed as per the drawing and instructions, then operational attention should not be required.

A note on safety:

No additional safety hazards are present with GAS Support Systems other than normal conveyor belt dangers.

In particular:

- Beware of moving conveyor belts.
- Beware of pinch points
- Do not attempt to install, maintain or disassemble any part of a conveyor belt without first isolating and tagging the conveyor drive.

5.0 OPERATOR TRAINING

5.1 SERVICING

There are no operator serviceable or adjustable functions on an *ESS* GAS Support System. No in-service procedures need to be followed, other than normal conveyor belt operating procedures.

Safety:

As mentioned in Section 4, no additional safety hazards exist with an ESS GAS Support System, other than normal conveyor belt dangers.

Do not attempt to perform any job on or around a moving conveyor belt - isolate and tag the belt first.

5.2 PROBLEMS

The operator, during routine conveyor inspections, should be alert to the following problem indicators:

- Smoke or burning rubber smell - the belt should be stopped immediately, and the problem located. It is far more likely to be a seized impact idler or a skirting problem, but could possibly indicate a Support System fault.
- Leakage of material from skirts at load zone - this should be notified to the appropriate maintenance personnel for attention at the earliest plant stoppage. It may mean that skirting requires attention, and/or that the Support System wings require adjustment or are worn.

6.0 ROUTINE MAINTENANCE AND SERVICE

Safety

Before attempting any maintenance on or around a conveyor belt, ensure that the belt drive is isolated and tagged.

General

The ***ESS*** GAS Support System requires virtually no maintenance to operate under extreme conditions for thousands of hours. However, to achieve the best bar life and avoid the need for unscheduled bar change-outs, the following maintenance practices should be adopted.

Routine Maintenance

The Systems should be inspected for bar wear after one month of operation, and again after three months.

Subsequent inspection frequency can be determined after the wear rate is assessed at these initial inspections.

7.0 TROUBLE SHOOTING

If the routine maintenance and scheduled bar change-outs are performed as per ***Routine Maintenance***, non routine maintenance should be virtually non existent. However the following situations are possible.

SYMPTOM	POSSIBLE CAUSE	REMEDY
Smoke or burning rubber smell.	1. Seized idler. 2.Over adjusted or damaged skirting.	- Replace idler - Replace or adjust skirting rubber.
Material spillage under skirts.	Skirting rubber not adjusted or failed. GAS Bars are worn.	- Adjust or replace skirting. - Adjust or turn Bars over or replace.

System Disassembly Procedure

The disassembly of an ESS GAS Support System is a simple process.

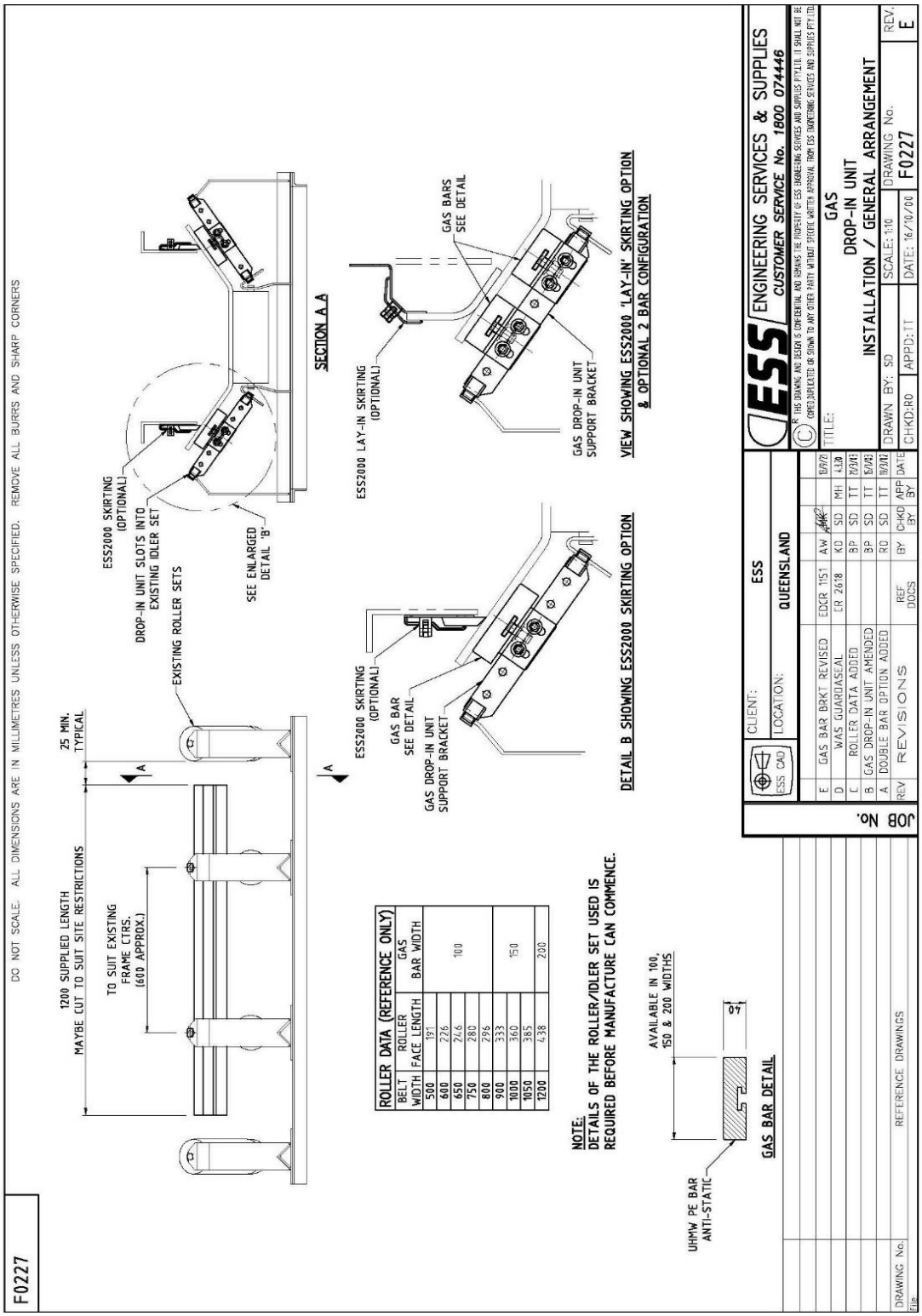
1. Loosen the T-bolts holding the T-Bar.
2. Slide the T-Bar from the support brackets.
3. Inspect the bars for wear or damage.
4. Replace the bars if necessary.
5. Repeat for the other side.

System Re-assembly

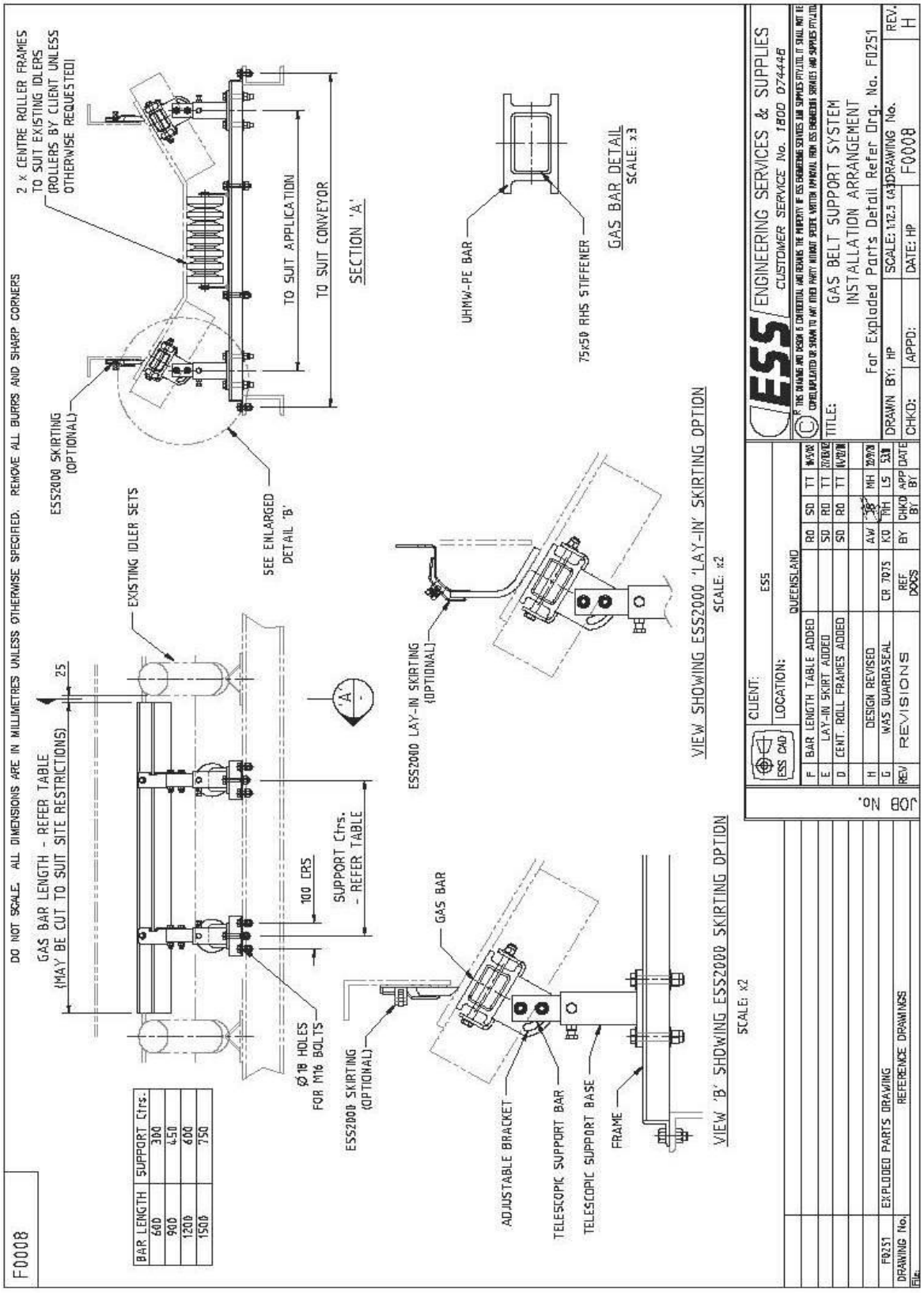
Re-assemble the System in reverse order of disassembly,

8.0 INSTALLATION ARRANGEMENT DRAWINGS

F0227 – GAS DROP-IN UNIT



F0008 – GAS BELT SUPPORT SYSTEM



9.0 INSTALLATION ARRANGEMENT DRAWINGS

Site: _____ Number: _____ Date: _____

Site Equipment No./Location: _____ Site Contact: _____

Completed By:_____ **(Circle Yes or No Below)**

1. **Was equipment to *ESS* Specification? _____ Yes/No**

   Drawing No. Ref: _____ Attached? Yes/No

   If No, WHY_____

   _____

   Will this affect performance? Yes/No

   If Yes, WHY _____

   _____

2. **Was this a standard ☐ service ☐ inspection ☐ installation? Yes/No**

   If No, WHY_____

   _____

3. **Was work carried out as per procedure and JSA? Yes/No**

   If No, WHY_____

   _____

4. **Is equipment fit for commissioning? Yes/No**

   If No, WHY_____

   _____

5. **Was a final inspection carried out while plant was running? Yes/No**

   If No, WHY_____

   _____

6. **Has anything changed from previous service / inspection / installation? Yes/No**

   If Yes, WHAT _____

   _____

7. **Is equipment performance to Client expectations? Yes/No**

   If No, WHY_____

   _____

   ***ESS* Signature: _____ Client Signature:_____**

10.0 NOTES