Original instructions

QJ240

Operator's Manual

SANDVIK

1. SAFETY SECTION

SANDVIK Put safety First.

This is to make sure that maximum safety measures are taken, ***ALWAYS*** read this section carefully ***BEFORE*** carrying out any work on the equipment or making any adjustments.

1.1 Safety Essentials

a. Breathing or inhaling silica dust particles will cause death or serious injury. ***ALWAYS*** work with a respirator approved by the respirator manufacturer for the job you are doing.

b. This equipment is manufactured in accordance with the Machinery Directive 2006/42/EC.[1] The customer should make sure that this equipment is in conformance with local and national legislation if used outside of the EU.

c. Read this manual and familiarize yourself with any associated documentation. If in doubt ask. ***Do not take personal risk***.

d. Only trained competent persons should be allowed to install, set, operate, maintain, and decommission this equipment. Make sure that a copy of this manual is available for any persons installing, using, maintaining or repairing this equipment.

e. Training should be provided to make sure that safe working practices are followed. Initial commissioning and starting must only be undertaken by a authorised person who has read and fully understands the information provided in the manual pack. ***ALWAYS follow the procedures outlined in the operating and maintenance instructions.***

f. To avoid the risk of electric shock, ***ALWAYS*** isolate this equipment from the supply source before removing any guards or covers or performing any maintenance or adjustment to the equipment.

Note! *The manufacturer declines all responsibility for injury or damage if the instructions and precautions in this manual are not followed.*

1. Directive 2006/42/EC of 01.01.10

1.12 Safety Advice Regarding Specific Operational Phases

1.12.1 Standard Operation

a. Take the necessary steps to make sure that the equipment is used ***ONLY*** when it is in a safe and reliable state.

b. Operate the equipment ***ONLY*** for its designed purpose, and only if all guarding, protective, and safety devices, emergency shut-off equipment, sound proofing elements and exhausts, are in place and fully functional.

c. ***MAKE SURE*** that any local barriers are erected to stop unauthorized entry to the equipment or work area.

d. ***BEFORE*** starting the engine make sure that it is safe to do so.

1.12.2 Blockage or Malfunction

In the event of material blockage, any malfunction or operational difficulty, stop the equipment and lockout immediately. Repair any defects or hazardous conditions immediately. Refer to the See “Operations” on page 71. section or contact your nearest dealer.

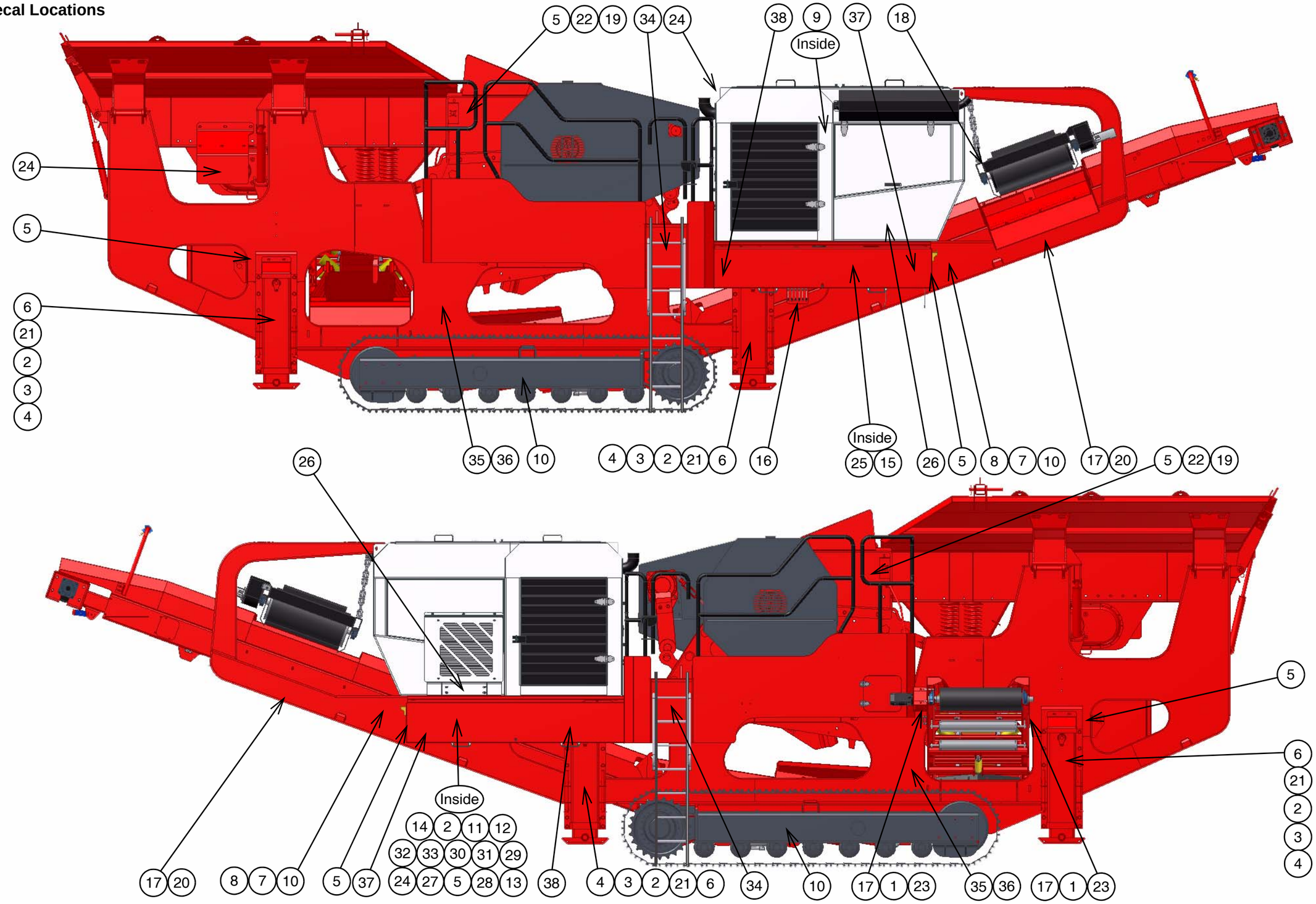
1.12.3 Unguarded Areas

a. Limit access to the equipment and its surrounds by erecting barrier guards (min. distance 1.5 meters away) to reduce the risk of other mechanical hazards, falling loads and ejected materials.

b. Switch off and lockout the equipment before removing any safety devices or guarding.

DECAL DIAGRAM

1.15 Decal Locations



Dimensions

Transport Length	12080 mm
Transport Width	2650 mm
Transport Height	3280 mm
Working Length	11850 mm
Working Width	3840 mm
Working Height	3800 mm
Weight	32 480 kg (Calculated - Standard Machine)

Engine Details

Engine	CAT 6.6 Industrial C
Engine Maximum Power	168 K.W @ 2200 RPM
Fuel Tank Capacity	490 Litres
Hydraulic Tank Capacity	950 Litres

Fuel Consumption Guide

100% Full load, continuous	46.1 litres/ hour
70% load	32.2 litres/ hour

4.2.2 Remote Control

1: Remote Control

Start Feeder

Stop Feeder

Remote Stop Engine

Alarms sounds while held

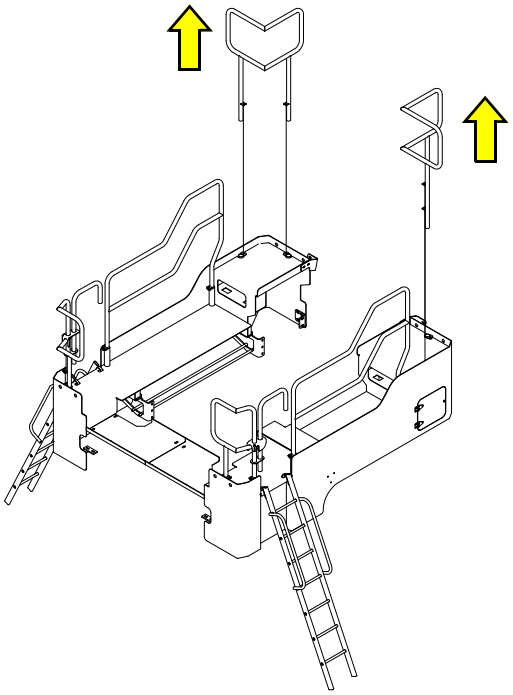
**Instructions on the back to program the remote

4.7.3 Hopper Door Setup Procedure

Make sure correct procedures are followed FOR the tasks that are done at height. Falling may cause injury or death

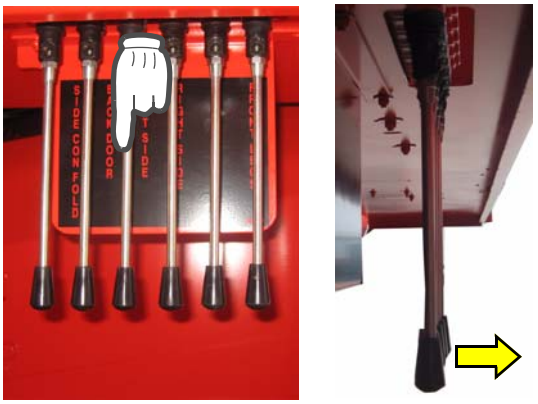
Make Sure that TWO persons do the operation

Make sure the two maitenance platform rails are removed

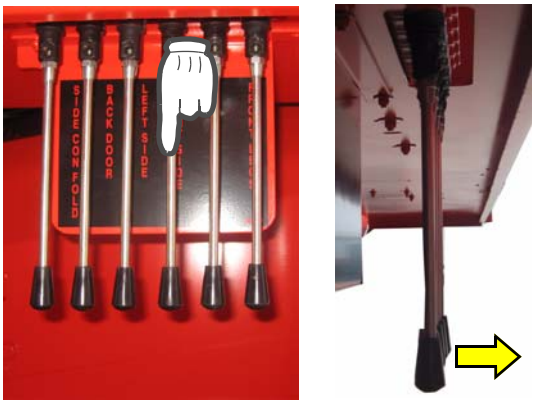


7: Setup up the ladders as shown and remove the two rails shown.
Hint: Use the 'lifting eye' holes on the flywheel guards as harness points if necessary

Use a BANKSMAN to view the hopper doors as they move and to make sure the area is clear and safe



8: Raise left hand hopper side.



9: Raise right hand hopper side.

5. OPERATIONS

DO NOT START SCREENING UNTIL YOU HAVE READ AND FULLY UNDERSTOOD THIS MANUAL

5.1 Start Up the Machine (for Operation)

Make sure the machine is set for operation refer to “Preparing the Crusher for Operation” on page 59 and the scheduled maintenance checks are done refer to “Maintenance” on page 83

Follow the instructions to feed the material through the machine:

1. Make sure the material size is set as necessary (refer to “The Adjustment Procedure of the Jaw Closed Size Setting (CSS)” on page 73)
2. If necessary check/adjust the brake pressure (refer to “Jaw Brake Pressure Adjustment” on page 80)
3. Set the feeder transfer chute output (main conveyor or side conveyor) refer to “The Set Up for the Feeder Transfer Chute” on page 82
4. Set up the exclusion zones with safety barriers and appropriate decals, for stock piles from:
   - The main conveyor
   - The side conveyor

Ferrous metal will exit the magnet chute, this may cause injury or death.

   - The magnet conveyor
5. Follow the sequence to start the conveyors and the jaw crusher refer to 5.3 “Operating The Machine (Crushing)” on page 76
6. Load the machine with material, if the jaw stalls (blocked with material):
   a. Make sure the feeder has stopped.
   b. Make sure the jaw crusher is OFF
   c. Make sure the main conveyor has no material on it and it is OFF
   d. If necessary reverse the jaw crusher refer to “Reverse Jaw Operation” on page 79, or,

Make sure NO persons are on the machine when it is ON, as this may cause injury or death.

DANGER

When the material is removed from the jaw, the jaws may move together because of the stored pressure. Make sure that you are NOT between the jaw plates as this may cause injury or death.

   e. Make sure the machine is off and remove the material with a suitable tool or tools. (refer to “Lockout and Tag Procedure” on page 69)
   f. When the material is removed start step ‘5’ again.

When the operations are complete shut down the machine (refer to “Shut Down the Machine” on page 68)

ID: QJ240-en-11519

3. Start the crusher refer to “Starting Procedure” on page 52.
4. Press the CLAMP ‘ON’ and the INTERLOCK ‘ON’. Make sure that the engine speed is on No.1.

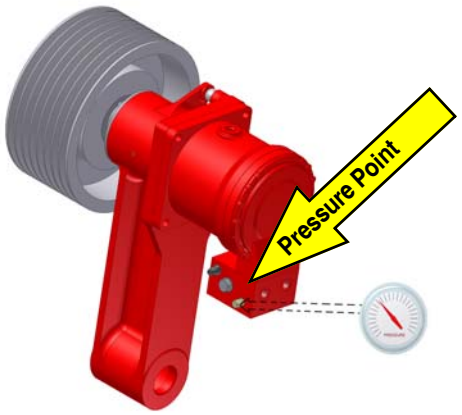
Note! *The jaw crusher will not stop when the engine speed is on No.2. The jaw will run for approximately 5 seconds when the OFF button has been pushed.*

5. Press and hold the CRUSHER ‘ON’ to start the crusher, then press and hold the CRUSHER ‘OFF’ to stop the crusher. As the crusher stops the pressure gauge should read a peak of 250 bar. If necessary, adjust the pressure to 250 bar, use the procedure that follows:

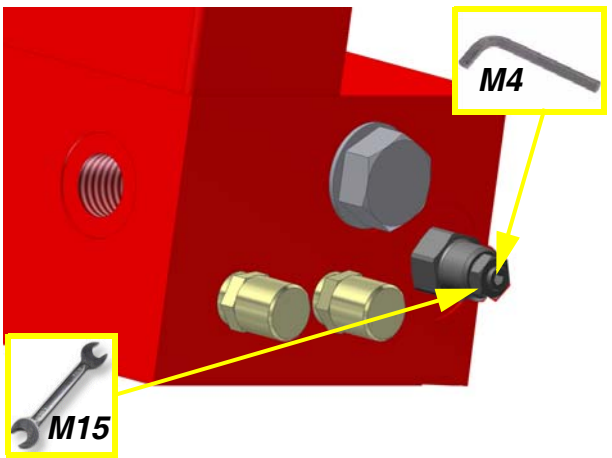
STOP THE MACHINE, ISOLATE, REMOVE THE IGNITION KEY, AND TAG-OUT, BEFORE ALL MAINTENANCE IS STARTED ON THIS MACHINE.

a. Stop the machine refer to “Shut Down the Machine” on page 68 and “Lockout and Tag Procedure” on page 69
b. Loosen the lock nut (with the M15 spanner) on the relief valve grub screw. Adjust a ¼ of a turn as necessary:
c. To reduce the pressure, turn the screw (with the M4 allen key) anti-clockwise.
d. To increase pressure, turn the screw (with the M4 allen key) clockwise.
e. Repeat procedure from step ‘1’ and check the pressure.
f. When the pressure reads a peak of 250 bar stop the machine (step ‘a’) lock the screw in position, tighten the attached lock nut (with the M15 spanner).

5.5.2 Reverse Jaw Brake Pressure



3: Reverse Jaw Brake Pressure



4: Adjusting Pressure

The jaw should only be run in reverse on speed No.1.

1. Make sure there is no material on the crusher, and all the belts, the feeder and the jaw crusher are empty. Make sure the machine is OFF.
2. Attach the pressure gauge to pressure point as shown (fig. 3).
3. Start the crusher refer to “Starting Procedure” on page 52.

Only apply grease where indicated.

Follow maintenance instructions laid out in the engine manufacturer's handbook.

NOTICE

NEVER USE GREASE CONTAINING MOLYBDENUM. DOING SO MAY CAUSE DAMAGE TO MACHINE PARTS AND WILL INVALIDATE ANY WARRANTY.

See following illustrations for details of grease points and types.

1: Torque Arm motor bearings

2: Torque Arm shaft bearings

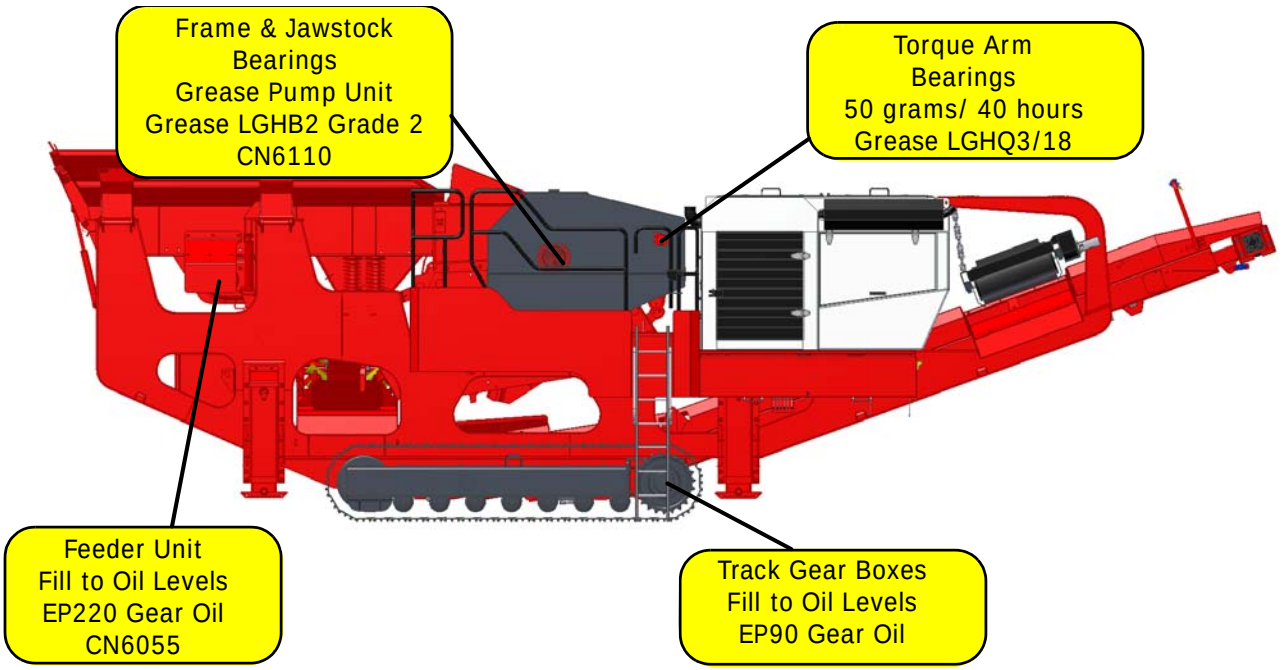
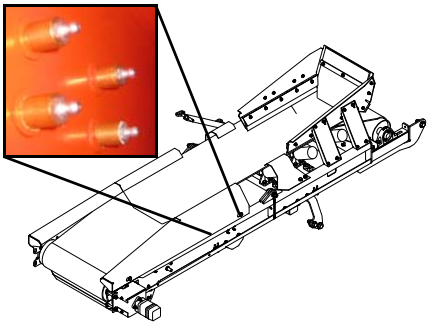


Figure 6-1: Grease Points

1: Grease points on the main conveyor



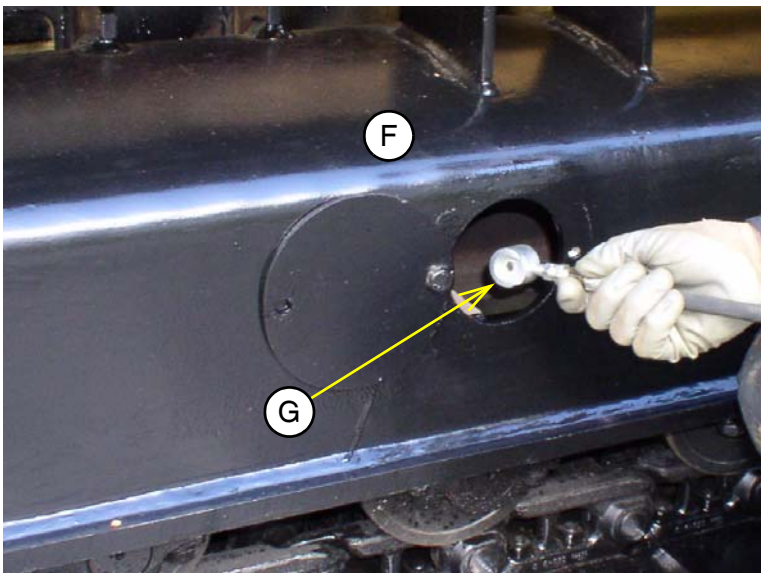
2: Grease points on the side conveyor

6.7.1 Increasing The Track Tension

To increase the tension of the track:

1. Remove the inspection cover on the side of the track frame as shown at (F).
2. Make sure that the track adjuster valve (H), is tight.
3. Attach the special grease gun connector (G), to a grease gun and fit it onto the track adjuster valve (H).
4. Pump grease into the valve until the droop of the track is correct.
5. Move the machine backwards and forwards a few times more and then re-check the droop. Add more grease if required.
6. Check for any escaping grease around the tensioning unit and finally close the inspection cover when finished.

Important: Make sure that the correct grease is used.

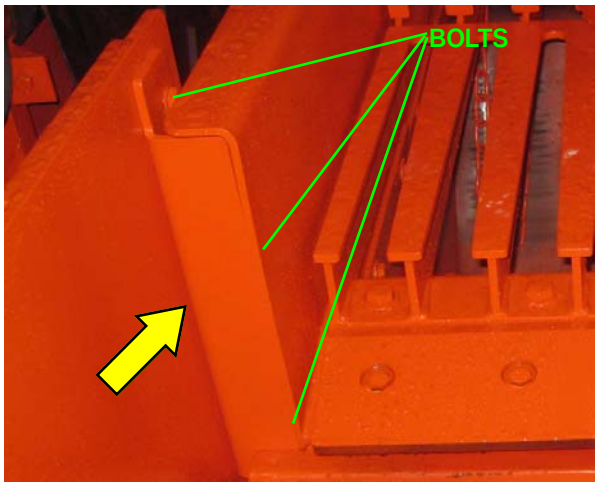


3: Increasing The Track Tension

6.7.2 Releasing The Track Tension

To the release the tension on the tracks:

1. Remove the inspection cover on the side of the track frame as shown at (F).
2. Loosen the track adjuster valve (H), by turning it one half turn anticlockwise.
3. Grease should now escape slowly from the track tensioning cylinder and the track should slacken.



1: Loosen the bolts and push back both the sealing plates on each side

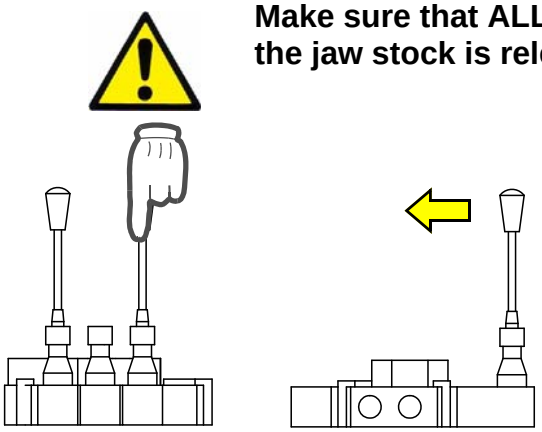
2: Place the lifting tools in the jaw plate. Before lifting the plate make sure the back face and pockets are clean of debris.

Risk of serious injury and death. Never work or stand under a suspended load. Make sure the area is clear of all persons. If necessary put safety barriers in position.

3: Make sure the lifting tool is installed correctly in the hole. Lift the fixed jaw plate with a minimum of a 5 ton(Metric) or 6 ton(US) crane.

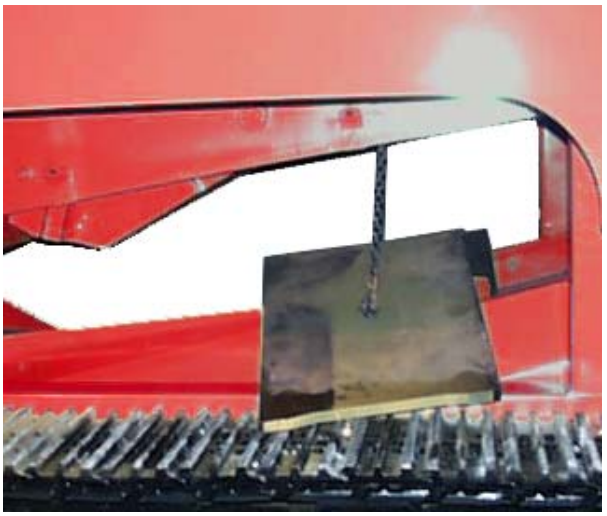
4: Make sure the back of the plate is clean and smooth. Clean out any build up dirt or dust in the holes.

Make sure that ALL persons are clear of the machine BEFORE the jaw stock is released.

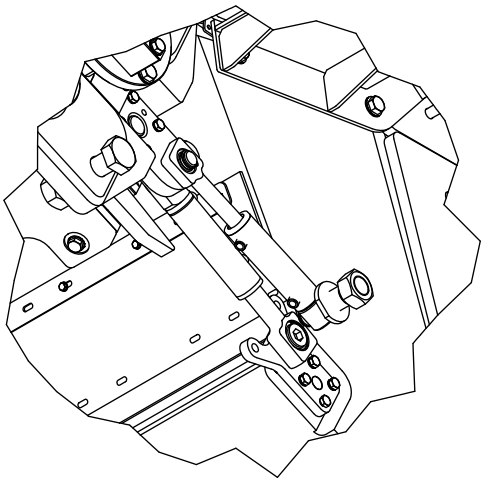


7: Push the toggle valve to release the toggle plate

8: Stop the machine refer to “4.8 Shut Down the Machine” on page 68

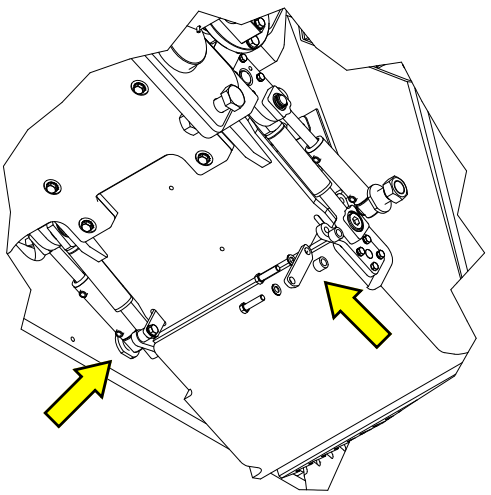


9: Lower the Toggle plate with the crane and remove through the clearance above the main conveyor



10: Check and Inspect the Toggle clamp and toggle ram bearings for cracks. Replace if necessary.

11: Use a minimum of a 2 tonne crane to lift and hold the Toggle plate into the correct position.



12: Install the tie bar. Install and tighten the bolts with the washers and bushes. Do both tie bars.

7.5 Control Block Pressure

Figure 7-2: Checking Control Block Pressure

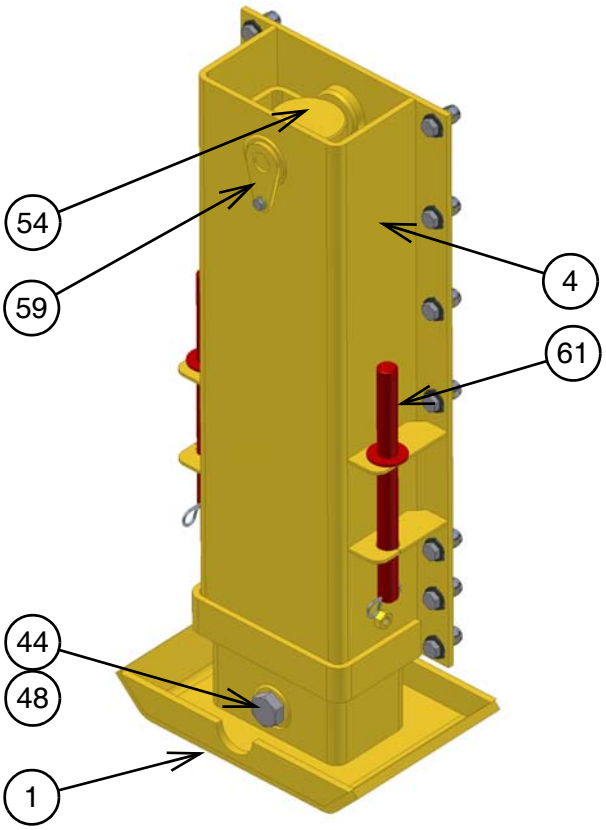
Check pressure at motor control block using a 0 - 400 bar pressure gauge as shown. Pressure readings should be:

Running empty	cold start up max 70 bar. Should drop to 10 - 20 bar when warm.
Recycling concrete, etc.	100 - 150 bar.
Medium rock	150 - 250 bar.
Hard rock	200 - 300 bar.

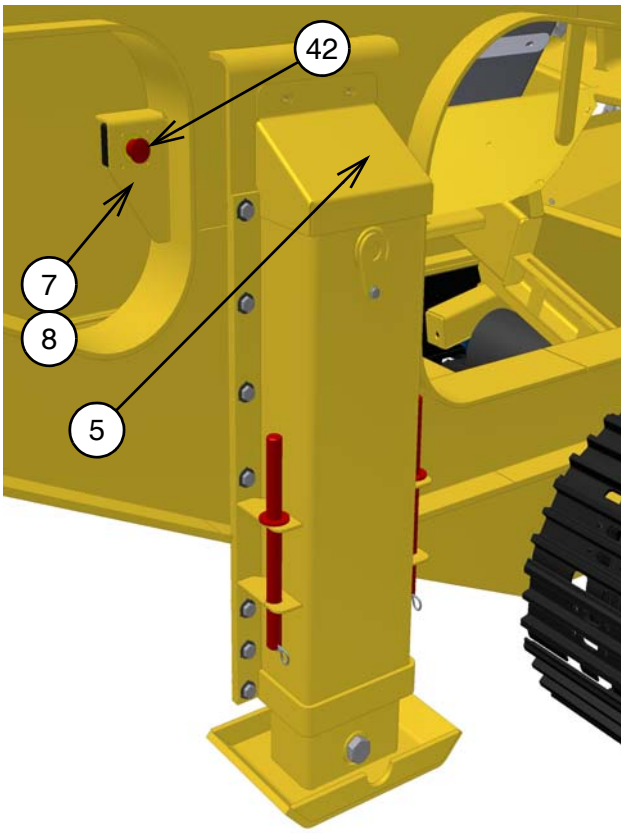
Note! *A high pressure reading when crusher is empty would indicate a mechanical problem with the crusher, such as an obstruction between jaw stock and side of crusher box. If this occurs,* **STOP MACHINE & INVESTIGATE IMMEDIATELY.**

IF ANY PROBLEM PERSISTS AFTER CARRYING OUT THE RECOMMENDED SOLUTION, OR A PROBLEM ARISES THAT IS NOT ON THIS LIST, CONTACT Sandvik Mining and Construction SERVICE DEPARTMENT FOR FURTHER ASSISTANCE.

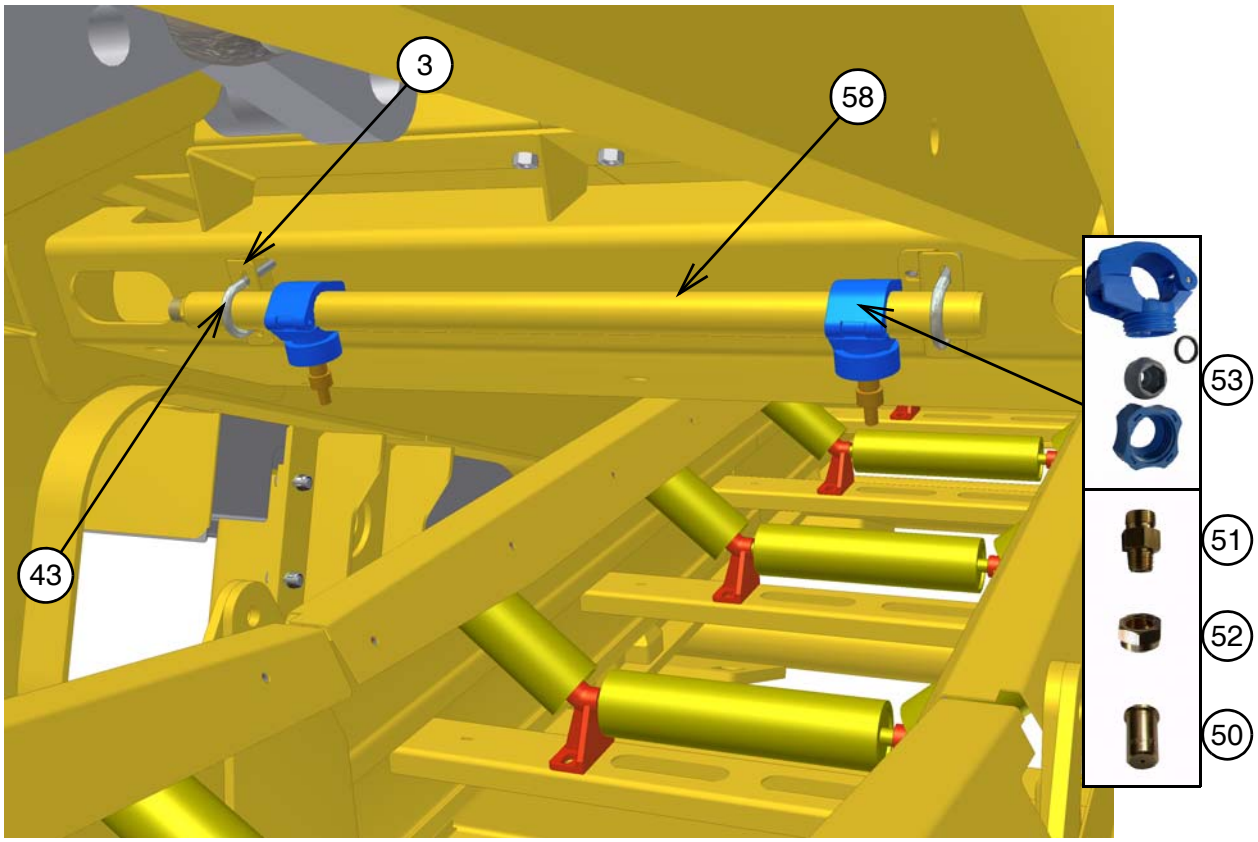
ADJUSTING PRESSURE SETTINGS OR REFILLING HYDRAULIC OIL ON THE MACHINE SHOULD ONLY BE CARIED OUT BY TRAINED Sandvik Mining and Construction SERVICE ENGINEERS.



4: JACKING LEG

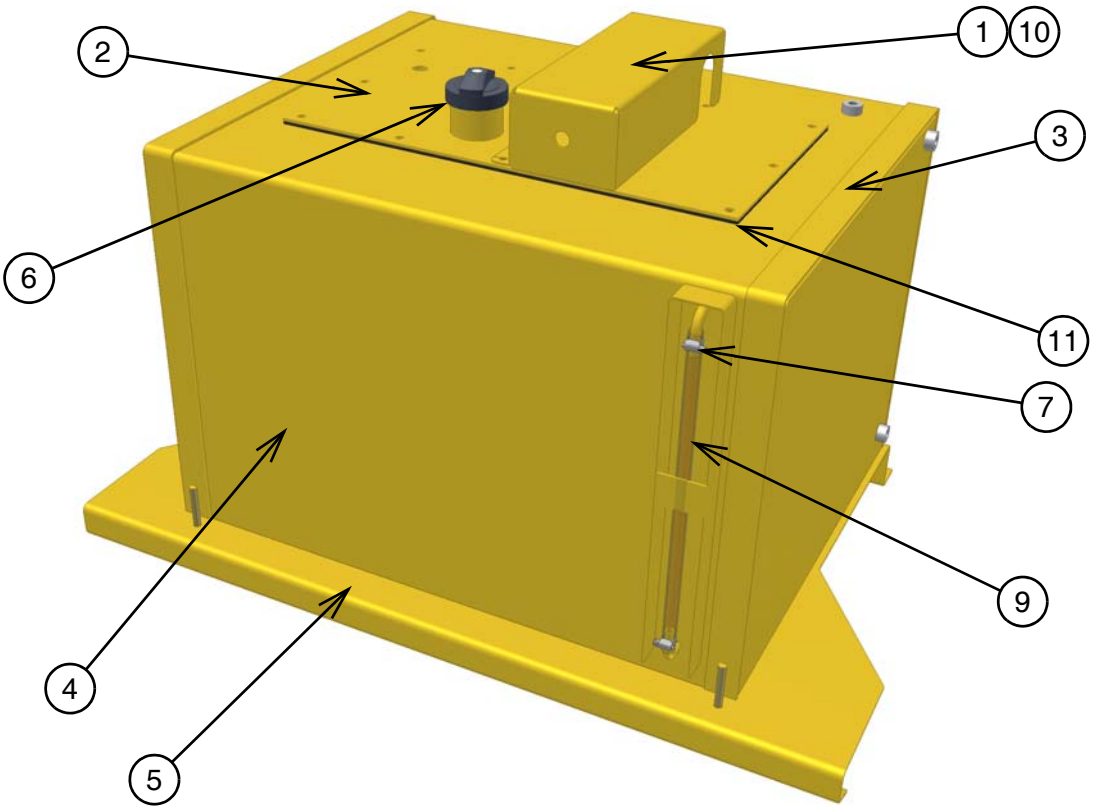


5: JACKING LEG MOUNTED

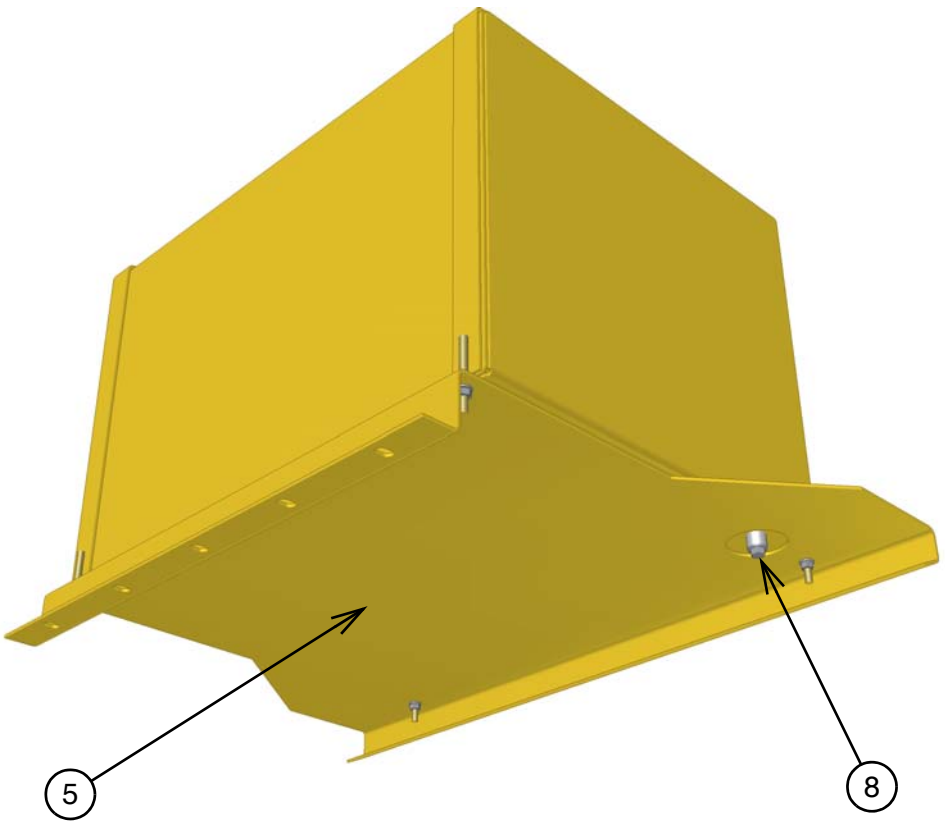


6: VIEW ON DUST SUPPREASSION SPRAY BAR

5. DIESEL TANK

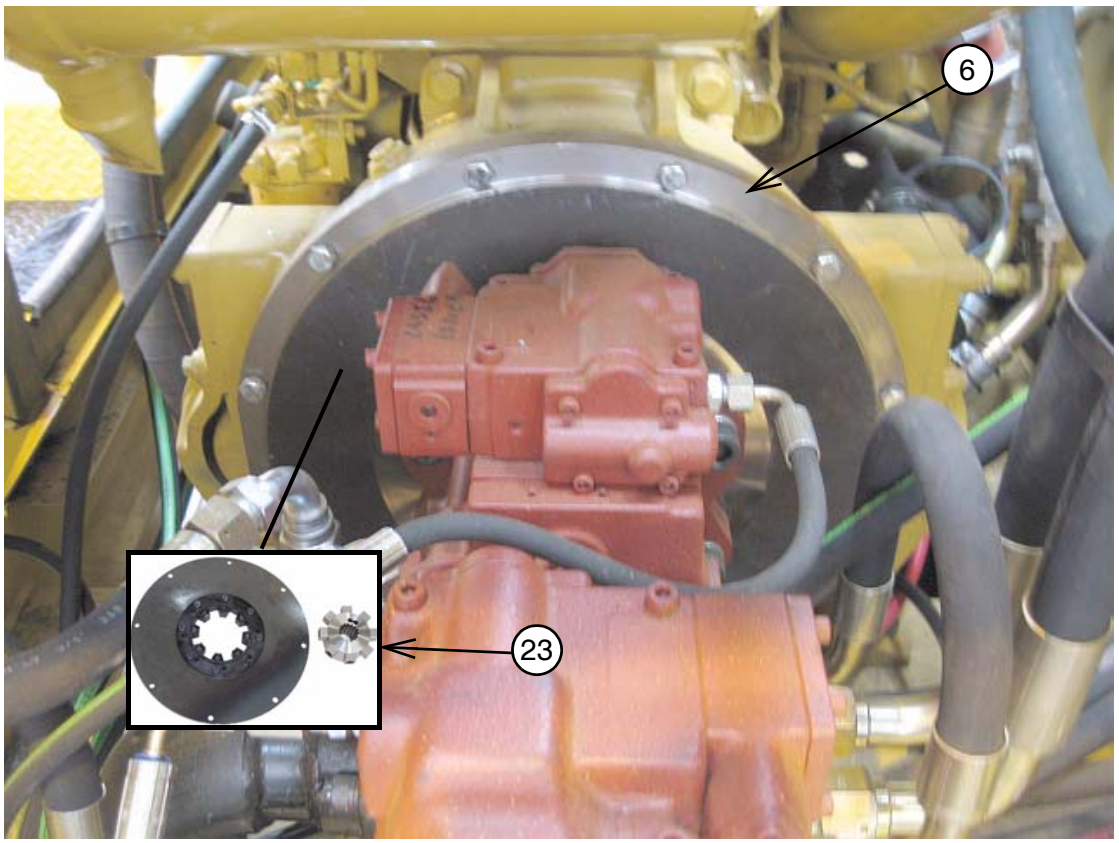


1: DIESEL TANK

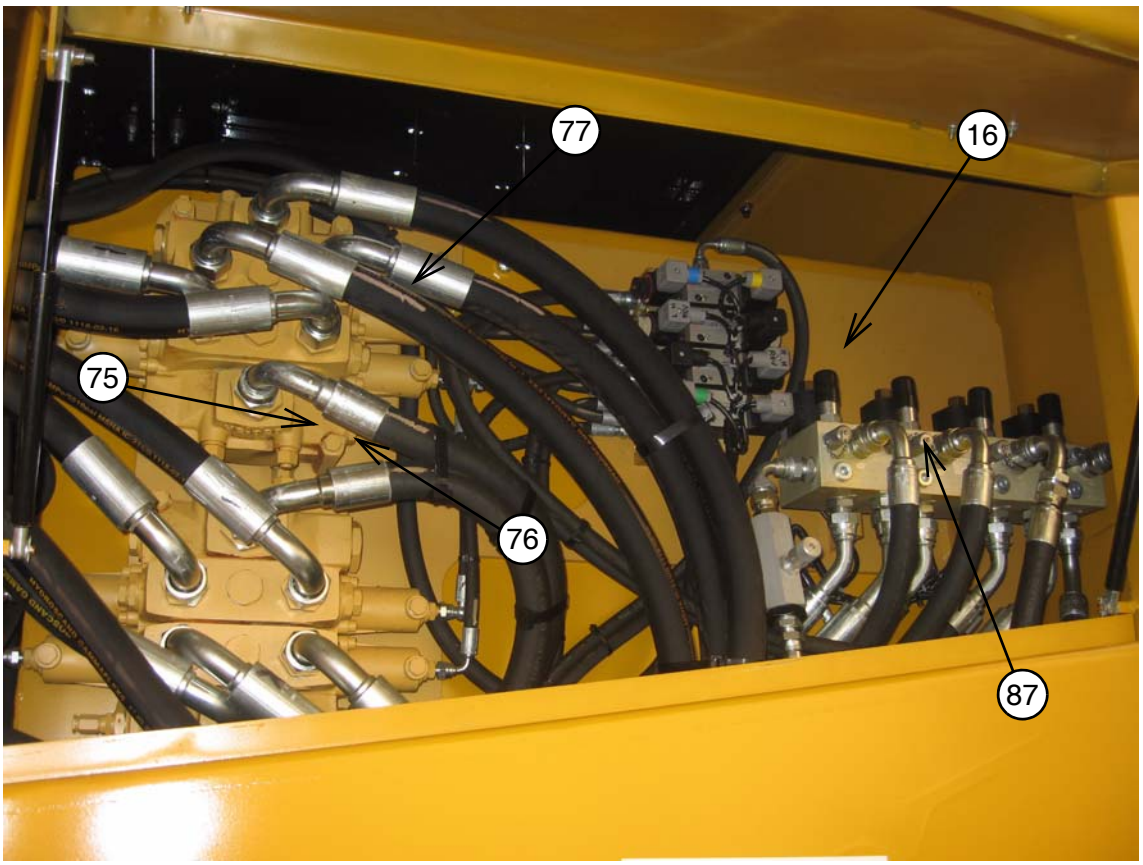


2: VIEW ON UNDERSIDE ON DIESEL TANK

Part No.	Part Description	Quantity
23. FAW06	WING NUT	2
24. FD1006	GAS STRUT	4
25. HG2009	PRESSURE GAUGE	3
26. HP5001	ACCUMULATOR	1
27. HV1028	3 LEVER SPOOL VALVE (WHEN EXTENDED MAIN CONVEYOR FITTED)	1
28. HV1042	2 LEVER SPOOL VALVE	1
29. HV1049	6 LEVER DOUBLE ACTING SPOOL VALVE	1
30. HV2002	WEBTEC FLOW DIVERTER	1
31. HV3031	TRACK SPEED CONTROL VALVE	1
32. HV3032	ADJUSTABLE JAW SOLENOID BLOCK	1
33. HV5009	PRESSURE SWITCH	5
34. HV8547	1.5 LITRE ACCUMULATOR (OPTION)	1



20: VIEW ON ENGINE COUPLING



21: VIEW ON VALVE PLATE ASSEMBLY

Part No.		Part Description	Qty
1.	D0180000	MOTOR MOUNTING BRACKET	1
2.	D0190000	CAPPLATE - MOTOR MTG. BRA CKET	1
3.	D4080000	ROSTA MOUNTING BRACKET	2
4.	D4610000	FEED BOOT SUPPORT LEG	2
5.	D4650000	RUBBER CLAMP - FEED BOOT BACK	2
6.	D4660000	RUBBER CLAMP - FEED BOOT L/H	1
7.	D4670000	RUBBER CLAMP - FEED BOOT R/H	1
8.	D4730000	RUBBER CLAMP PLATE - LOWER L/H	1
9.	D4770000	CROSS PLATE - HEAD DRUM GUARD	1
10.	D4780000	HEAD DRUM SCRAPER ANGLE	1
11.	D4800000	ACCESS COVER PLATE	2
12.	D4970000	CLAMP PLATE - SMALL FLARE	2
13.	D4980000	SPRAY BAR ASSEMBLY	1
14.	D14720000	WING BAR MOUNTING PLATE	1
15.	D5510000	TOP SCRAPER MOUNTING PLATE	1
16.	D5520000	CLAMP PLATE - TOP SCRAPER	1
17.	D5540000	RUBBER CLAMP PLATE - LOWER R/H	1
18.	D5560000	RAM SUPPORT BRACKET	1
19.	D6900000	IMPACT BAR	3
20.	D5670000	ALUMINIUM DISCHARGE CHUTE	1
21.	D5690000	ALUMINIUM DISCHARGE CHUTE EXTENSION	1
22.	D4850000	RUBBER CLAMP PLATE - LOWER L/H	1
23.	E0150000	BEARING ADJUSTER	2
24.	K1160000	HEAD DRUM	1
25.	K1170000	TAIL DRUM	1
26.	BT1003	BEARING - TAIL DRUM	2
27.	BT2003	BEARING - HEAD DRUM	2
28.	BT5009	TAPER LOCKBUSH - MOTOR	1
29.	BT5011	TAPER LOCKBUSH - DRUM	1
30.	BT6516	SPIDER - RUBBER INSERT	1
31.	BT6517	COUPLING	1
32.	CB175500800	BELT	1
33.	CR1003	WING ROLLER	14
34.	CR1004	30º ROLLER BRACKET	2

Part No.		Part Description	Qty
1.	D0180000	MOTOR MOUNTING BRACKET	1
2.	D0190000	CAPPLATE - MOTOR MTG. BRA CKET	1
3.	D4080000	ROSTA MOUNTING BRACKET	2
4.	D4610000	FEED BOOT SUPPORT LEG	2
5.	D4650000	RUBBER CLAMP - FEED BOOT BACK	2
6.	D4660000	RUBBER CLAMP - FEED BOOT L/H	1
7.	D4670000	RUBBER CLAMP - FEED BOOT R/H	1
8.	D4730000	RUBBER CLAMP PLATE - LOWER L/H	1
9.	D4770000	CROSS PLATE - HEAD DRUM GUARD	1
10.	D4780000	HEAD DRUM SCRAPER ANGLE	1
11.	D4800000	ACCESS COVER PLATE	2
12.	D4970000	CLAMP PLATE - SMALL FLARE	2
13.	D4980000	SPRAY BAR ASSEMBLY	1
14.	D14720000	WING BAR MOUNTING PLATE	1
15.	D5510000	TOP SCRAPER MOUNTING PLATE	1
16.	D5520000	CLAMP PLATE - TOP SCRAPER	1
17.	D5540000	RUBBER CLAMP PLATE - LOWER R/H	1
18.	D5560000	RAM SUPPORT BRACKET	1
19.	D6900000	IMPACT BAR	3
20.	D5670000	ALUMINIUM DISCHARGE CHUTE	1
21.	D5690000	ALUMINIUM DISCHARGE CHUTE EXTENSION	1
22.	D4850000	RUBBER CLAMP PLATE - LOWER L/H	1
23.	E0150000	BEARING ADJUSTER	2
24.	K1160000	HEAD DRUM	1
25.	K1170000	TAIL DRUM	1
26.	BT1003	BEARING - TAIL DRUM	2
27.	BT2003	BEARING - HEAD DRUM	2
28.	BT5009	TAPER LOCKBUSH - MOTOR	1
29.	BT5011	TAPER LOCKBUSH - DRUM	1
30.	BT6516	SPIDER - RUBBER INSERT	1
31.	BT6517	COUPLING	1
32.	CB24150800	BELT	1
33.	CR1003	WING ROLLER	14
34.	CR1004	30º ROLLER BRACKET	2

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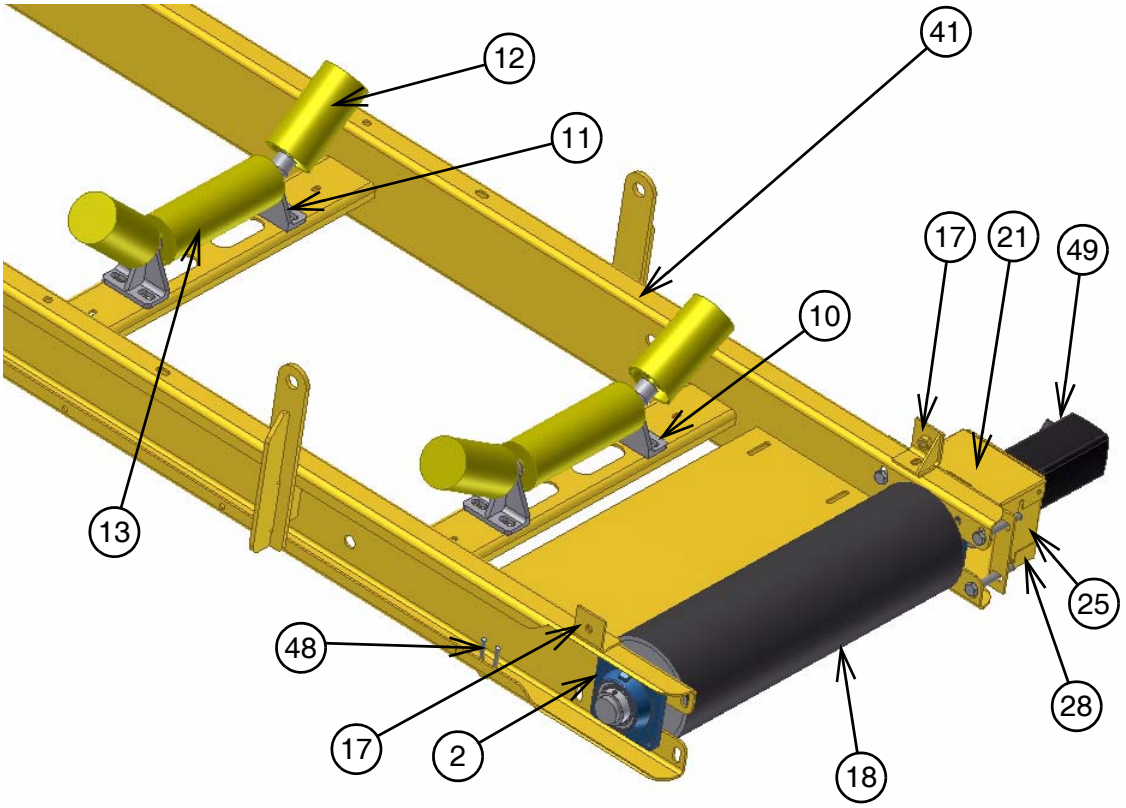
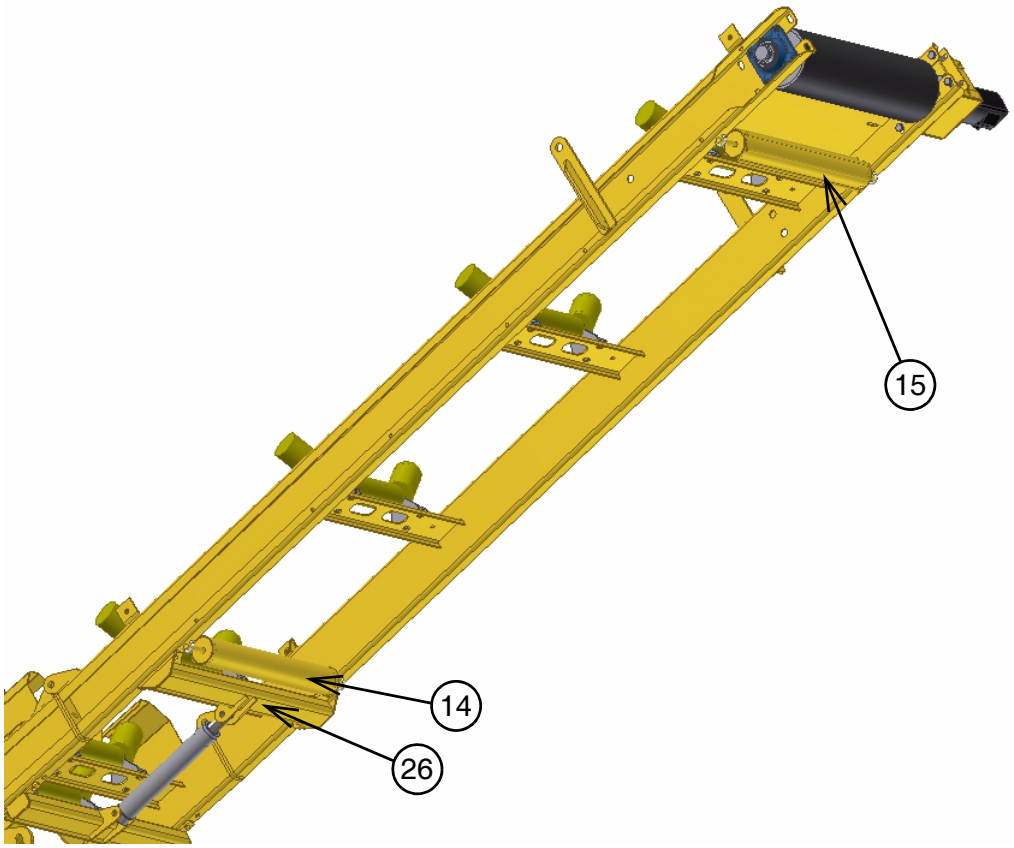
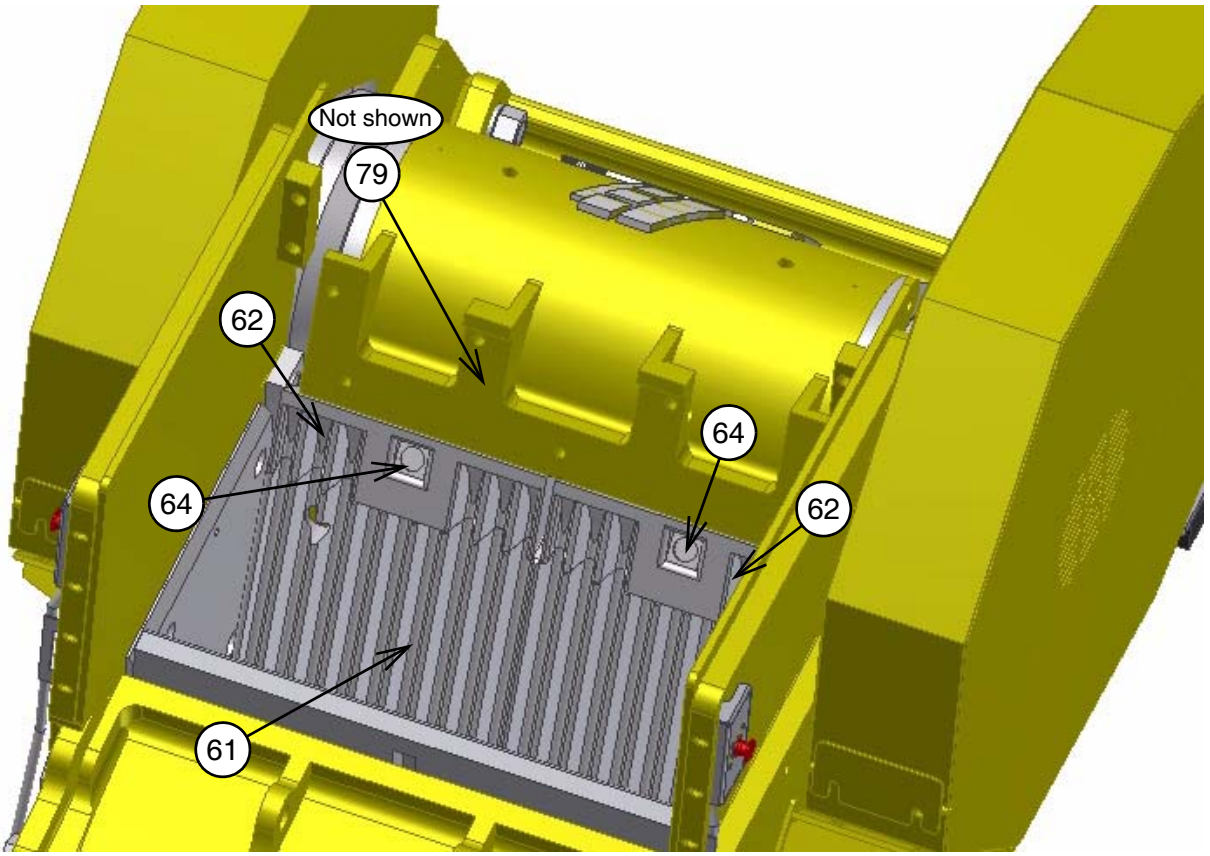


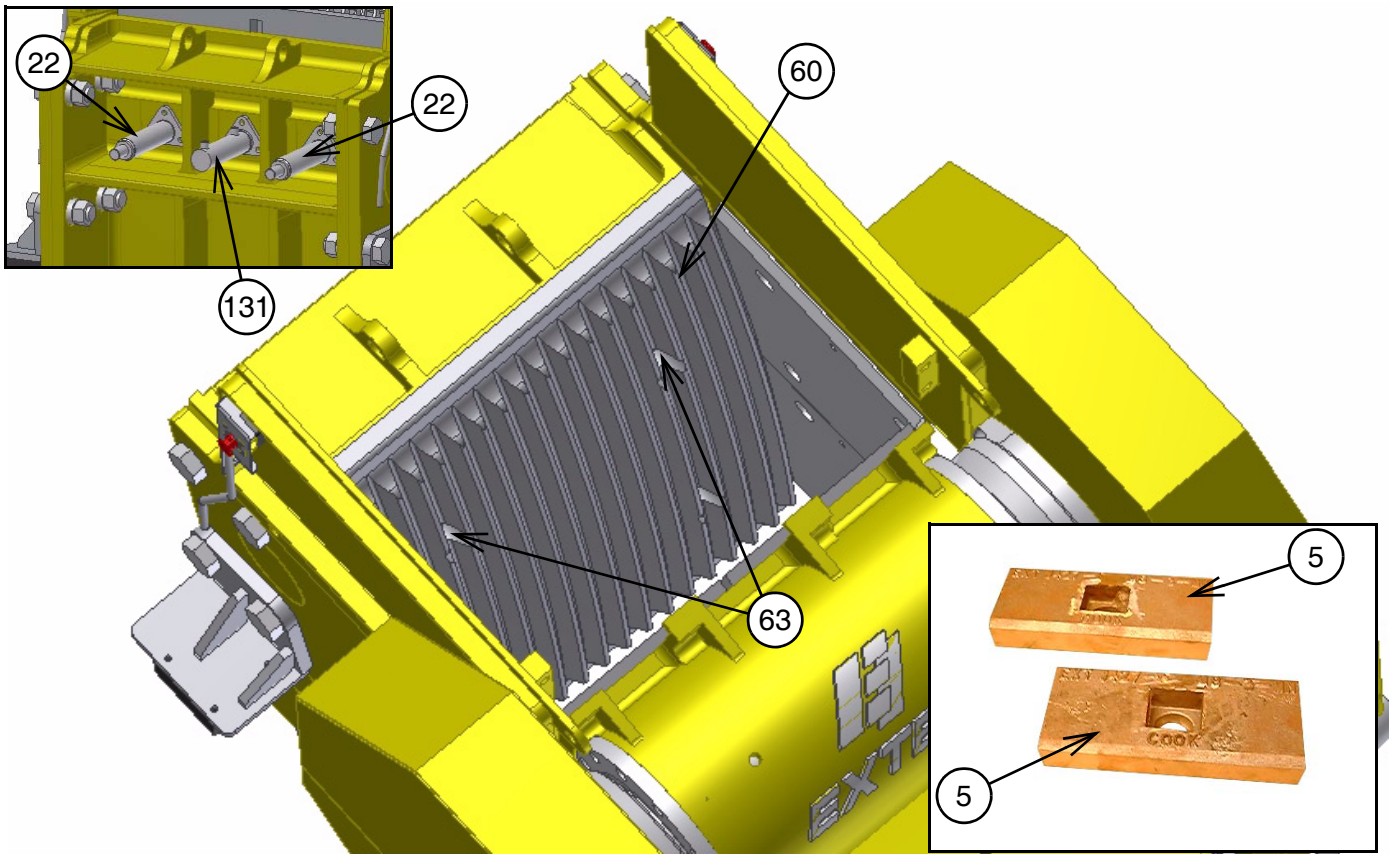
5: SIDE CONVEYOR HEAD SECTION



6: SIDE CONVEYOR UNDERSIDE SECTION

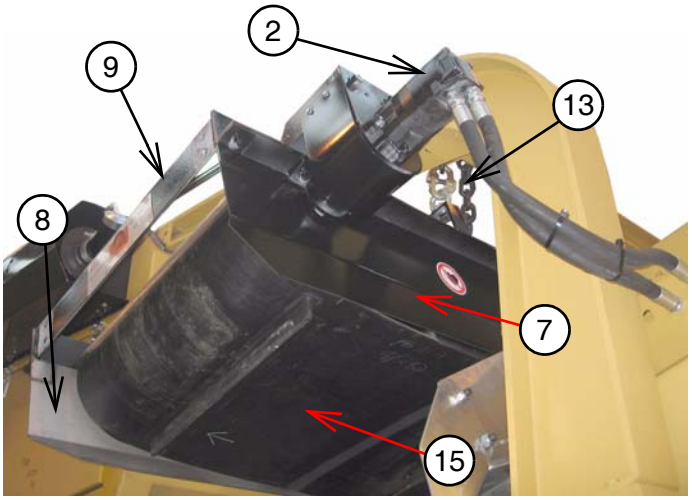


28: Jawstock Wearplate and Wedges

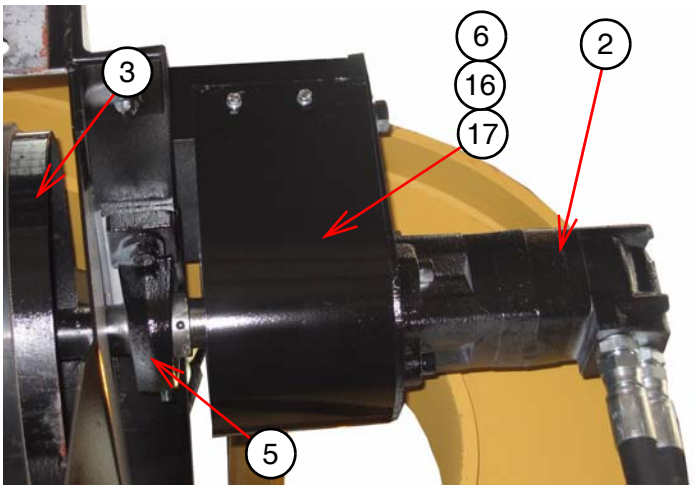


29: Crusher Box Fixed Wearplate

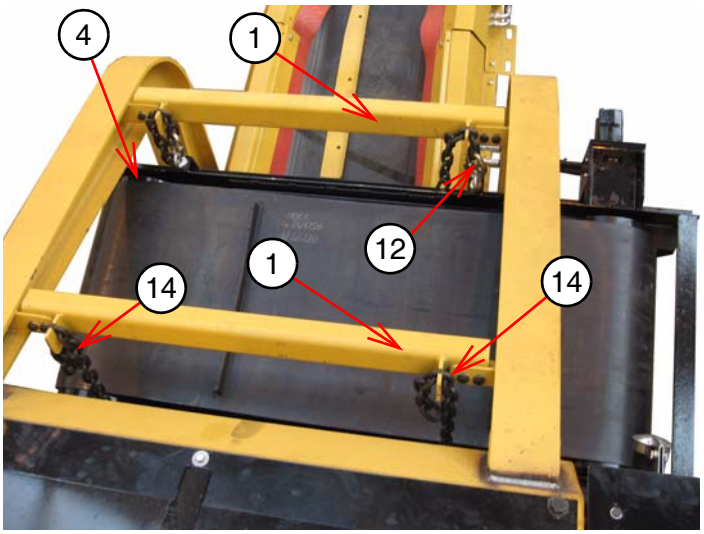
14. MAGNET



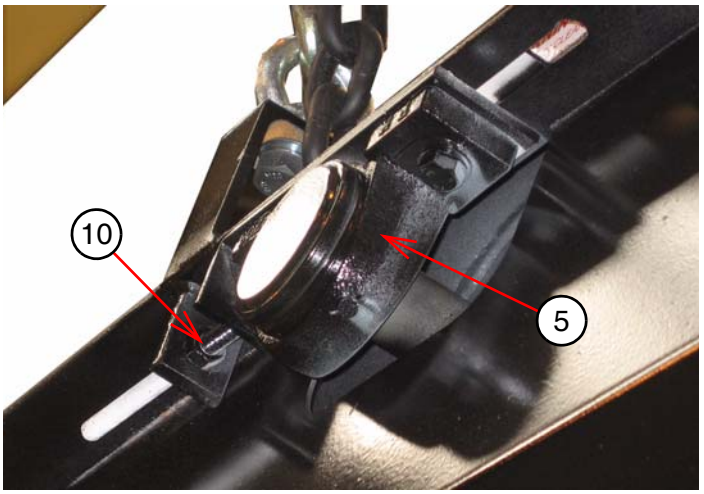
1: View on Discharge End of Magnet



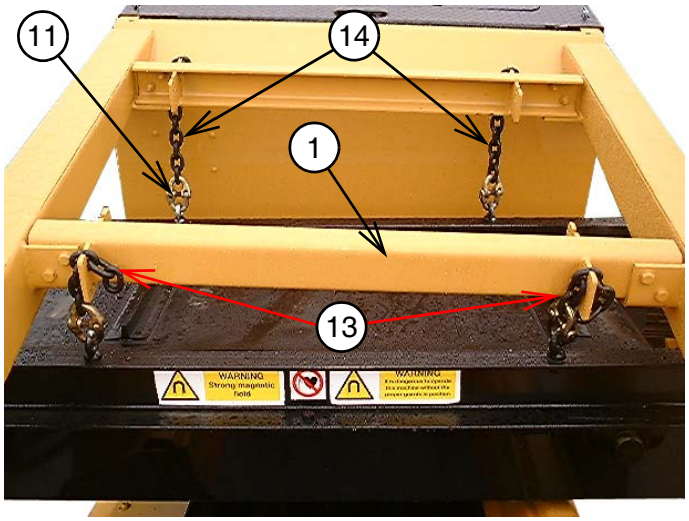
2: View on Magnet Motor



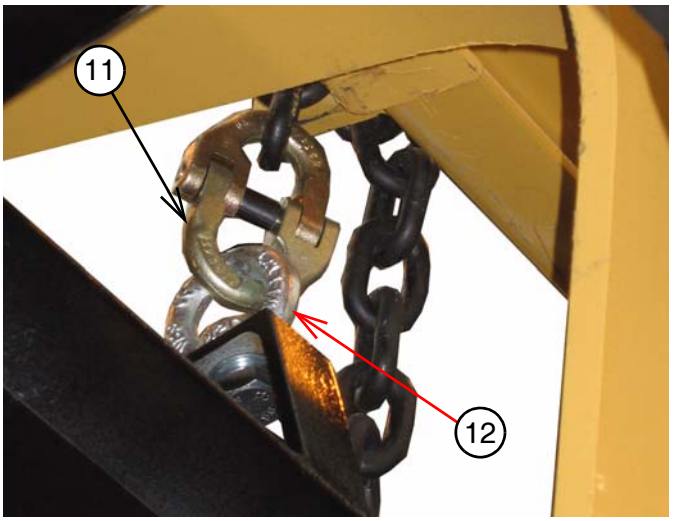
3: View on Top of Magnet from Rear



4: View on Bearing Adjuster

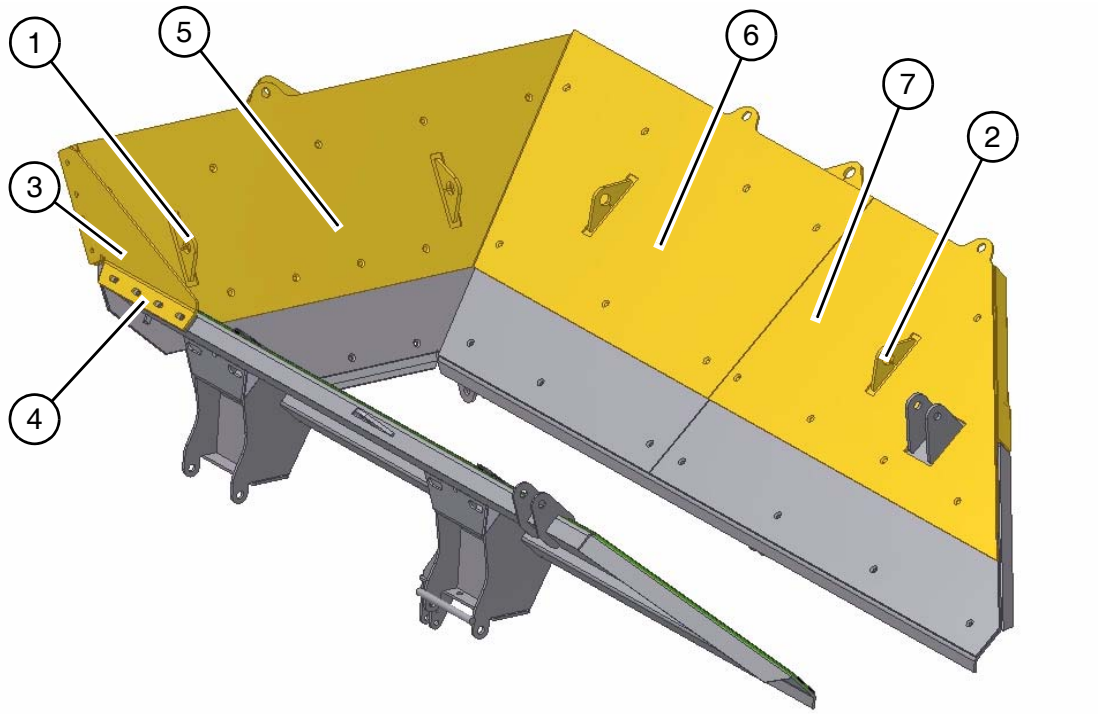


5: View on Magnet from Front of Conveyor



6: View on Frame Connection

17. EXTENDED HOPPER DOORS



1: EXTENDED HOPPER DOORS

Part No.	Part Description	Qty
1. C13150000	HOPPER EXTENSION REAR	1
2. C13160000	HOPPER EXTENSION SIDE	1
3. C13170000	HOPPER CHANEL FILLER PLATE	1
4. C13180000	HOPPER SIDE CHANNEL FILLER PLATE BASE WELDED TO DOOR	1
5. C13260000	IMPACT PLATE REAR	1
6. C13290000	IMPACT PLATE SIDE	1
7. C13300000	IMPACT PLATE SIDE	1
8. PN1171	EXTENDED HOPPER LOCKING PIN (NOT SHOWN)	1

ID: QJ240-en-11519

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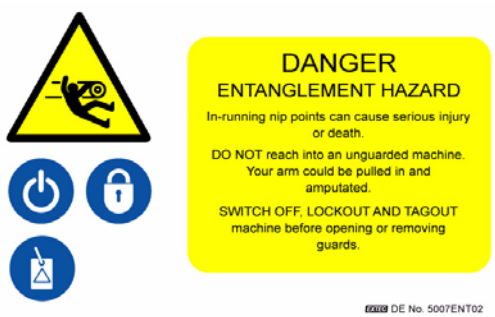

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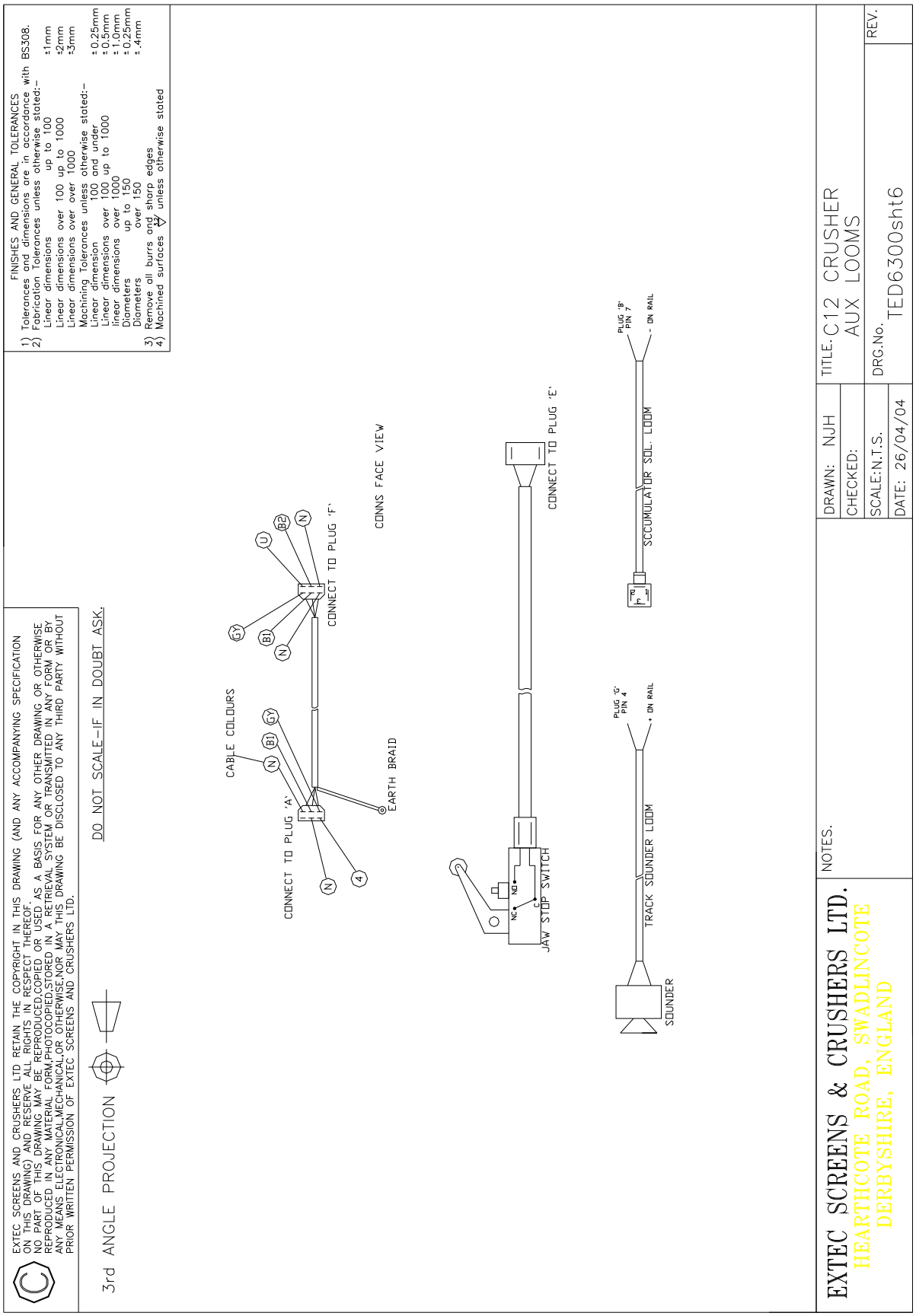

Figure 1-4: AUXILARY LOOMS

1. OEM MANUALS

	Title	Issue No Date
1.	CATERPILLAR C-6.6 ENGINE: O&M	SEBU8120 August 2005
2.	CATERPILLAR C-6.6 ENGINE: Parts Manual	SEBP4314 October 2005
3.	ERIEZ MAGNET MODELS CP & OP INSTRUCTIONS	IM-108GB-(F.01)
4.	Vogel Pump Unit Operating Instructions	

2. HAZARDOUS SUBSTANCES

	Title	COSHH Sheet Reference
1.	Exxon Unirex N 3 Grease	570317-00 UNIREX N 3
2.	Shell Albida Grease EP2	ACIYK GB/eng/C 19/03/2005
3.	Shell Rimula Super 15W-40	ACK9D GB/eng/C 26/11/2003
4.	Shell Naturelle Fluid HF-M 46	ACKXR GB/eng/C 09/06/2004
5.	Shell Tellus Oil 46	ACKQ6 GB/eng/C 29/04/2004
6.	Shell Omala 220 Gear Oil	ACH75 GB/eng/C 29/01/2003
7.	Shell Safe Anti Freeze	L84042 Revision 23 08 2004
8.	Shell Agricultural Gas Oil	F32002 Revision 02 10 2002
9.	Exol Ethena EP90 Gear Oil	2nd October 2002

ID: QJ240-en-11519

Safety Data Sheet

Shell Albida Grease EP 2

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

Product Code	001A0091
Infosafe No.	ACIYK GB/eng/C
Issued Date	19/03/2005
Product Type/Use	Automotive and industrial grease.

Other Names	**Name**	**Code**
	Shell Albida Grease EP 2	140000006899

Supplier

SHELL UK PRODUCTS LTD
Stanlow Manufacturing Complex
PO Box 3
Ellesmere Port CH65 4HB
Technical Contact: Product HSE Department
United Kingdom

Telephone Numbers

Emergency Tel.

0151-350-4595

Telephone/Fax Number

Tel: 0151-350-4000

2. COMPOSITION/INFORMATION ON INGREDIENTS

Preparation Description

A lubricating grease containing highly-refined mineral oils and additives. The highly refined mineral oil contains <3% (w/w) DMSO-extract, according to IP346.

Dangerous Components / Constituents

Exposure limits apply to the following components: Highly refined mineral oil.

Name	CAS	EINECS	Proportion		
Zinc naphthenate	12001-85-3	234-409-2	1-2.4 %		

Other Information

See Section 16 'Other Information' for full text of each relevant Risk Phrase.

3. HAZARDS IDENTIFICATION

EC Classification	Not classified as Dangerous under EC criteria.

Human Health Hazards

No specific hazards under normal use conditions. Prolonged or repeated exposure to skin may give rise to

Human Health Hazards
No specific hazards under normal use conditions. Prolonged or repeated exposure may give rise to dermatitis. Used oil may contain harmful impurities.

Safety Hazards
Not classified as flammable, but will burn.

Environmental Hazards
Not classified as dangerous to the environment.

4. FIRST AID MEASURES

Symptoms and Effects
Not expected to give rise to an acute hazard under normal conditions of use.

Inhalation
In the unlikely event of dizziness or nausea, remove casualty to fresh air. If symptoms persist, obtain medical attention.

Skin
Remove contaminated clothing and wash affected skin with soap and water. If persistent irritation occurs, obtain medical attention. If high pressure injection injuries occur, obtain medical attention immediately.

Eye
Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.

Ingestion
Wash out mouth with water and obtain medical attention. Do not induce vomiting.

Advice to Doctor
Treat symptomatically. Aspiration into the lungs may cause chemical pneumonitis. Dermatitis may result from prolonged or repeated exposure.
High pressure injection injuries require surgical intervention and possibly steroid therapy to minimise tissue damage and loss of function. Because entry wounds are small and do not reflect the seriousness of the underlying damage, surgical exploration to determine the extent of involvement may be necessary. Local anaesthetics or hot soaks should be avoided because they can contribute to swelling, vasospasm and ischaemia. Prompt surgical decompression, debridement and evacuation of foreign material should be performed under general anaesthetics, and wide exploration is essential.
There may be a risk to health where low viscosity products are aspirated into the lungs following vomiting, although this is uncommon in adults. Such aspiration would cause intense local irritation and chemical pneumonitis. Children, and those in whom consciousness is impaired, will be more at risk. Emesis of lubricants is not usually necessary, unless a large amount has been ingested, or some other compound has been dissolved in the product. If this is indicated, for example, when there is rapid onset of central nervous system depression from large ingested volume - gastric lavage under controlled hospital conditions, with full protection of the airway is required. Supportive care may include oxygen, arterial blood gas monitoring, respiratory support, and, if aspiration has occurred, treatment with corticosteriods and antibiotics. Seizures should be controlled with Diazepam, or appropriate equivalent drug.

5. FIRE FIGHTING MEASURES

Specific Hazards
Combustion is likely to give rise to a complex mixture of airborne solid and liquid particulates and gases, including carbon monoxide and unidentified organic and inorganic compounds.

Extinguishing Media
Foam and dry chemical powder. Carbon dioxide, sand or earth may be used for small fires only.

Personal Precautions
Avoid contact with skin and eyes. Wear PVC, Neoprene or nitrile rubber gloves. Wear rubber knee length safety boots and PVC Jacket and Trousers. Wear safety glasses or full face shield if splashes are likely to occur.

Environmental Precautions
Prevent from spreading or entering into drains, ditches or rivers by using sand, earth, or other appropriate barriers. Inform local authorities if this cannot be prevented.

Clean-up Methods - Small Spillages
Absorb liquid with sand or earth. Sweep up and remove to a suitable, clearly marked container for disposal in accordance with local regulations.

Clean-up Methods - Large Spillages
Prevent from spreading by making a barrier with sand, earth or other containment material. Reclaim liquid directly or in an absorbent. Dispose of as for small spills.

7. HANDLING AND STORAGE

Handling
Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Avoid prolonged or repeated contact with skin. When handling product in drums, safety footwear should be worn and proper handling equipment should be used. Prevent spillages. Cloth, paper and other materials that are used to absorb spills present a fire hazard. Avoid their accumulation by disposing of them safely and immediately. In addition to any specific recommendations given for controls of risks to health, safety and the environment, an assessment of risks must be made to help determine controls appropriate to local circumstances. Exposure to this product should be reduced as low as reasonably practicable. Reference should be made to the Health and Safety Executive's publication 'COSHH Essentials'.

Storage
Keep in a cool, dry, well-ventilated place. Use properly labelled and closeable containers. Avoid direct sunlight, heat sources, and strong oxidizing agents. The storage of this product maybe subject to the Control of Pollution (Oil Storage) (England) Regulations. Further guidance maybe obtained from the local environmental agency office.

Storage Temperatures
0ºC Minimum. 50ºC Maximum.

Recommended Materials
For containers or container linings, use mild steel or high density polyethylene.

Unsuitable Materials
For containers or container linings, avoid PVC.

Other Information
Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Exposure Limits

Substance	Regulations	Exposure Duration	Exposure Limit	Units	Notes
Oil mist, mineral	Health and Safety Executive. EH40; Occupational Exposure Limits.	TWA	5	mg/m3	

Flammable Limits - Lower	Data not available.
Auto-Ignition Temperature	Data not available.
Kinematic Viscosity	circa 42 mm2/s at 40ºC.
Evaporation Rate	Data not available.
Vapour Density (Air=1)	Greater than 1.
Partition co-efficient, n-octanol/water	Data not available.
Pour Point	circa -42ºC.

10. STABILITY AND REACTIVITY

Stability
Stable.

Conditions to Avoid
Extremes of temperature and direct sunlight.

Materials to Avoid
Strong oxidizing agents.

Hazardous Decomposition Products
Hazardous decomposition products are not expected to form during normal storage.

11. TOXICOLOGICAL INFORMATION

Basis for Assessment
Toxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the toxicology of similar products.

Acute Toxicity - Oral
LD50 expected to be > 2000 mg/kg.

Acute Toxicity - Dermal
LD50 expected to be > 2000 mg/kg.

Acute Toxicity - Inhalation
Not considered to be an inhalation hazard under normal conditions of use.

Eye Irritation
Expected to be slightly irritating.

Skin Irritation
Expected to be slightly irritating.

Respiratory Irritation
If mists are inhaled, slight irritation of the respiratory tract may occur.

Skin Sensitisation
Not expected to be a skin sensitizer.

Carcinogenicity
Components are not known to be associated with carcinogenic effects.

Mutagenicity
Not considered to be a mutagenic hazard.

Reproductive Toxicity
Not considered to be toxic to reproduction.

organisms at concentrations less than 1 mg/l.

Other Adverse Effects
Not expected to have ozone depletion potential, photochemical ozone creation potential or global warming potential.
Product is a mixture of non-volatile components, which are not expected to be released to air in any significant quantities.

13. DISPOSAL CONSIDERATIONS

Waste Disposal
Recycle or dispose of in accordance with prevailing regulations, with a recognised collector or contractor. The competence of the contractor to deal satisfactorily with this type of product should be established beforehand. Do not pollute the soil, water or environment with the waste product.

Product Disposal
As for waste disposal.

Container Disposal
Recycle or dispose of in accordance with the legislation in force with a recognised collector or contractor.

14. TRANSPORT INFORMATION

Transport Information
Not dangerous for transport under ADR/RID, IMO and IATA/ICAO regulations.

15. REGULATORY INFORMATION

EC Symbols	None.
EC Risk Phrase	Not classified.
EC Safety Phrase	Not classified.

EINECS	All components listed or polymer exempt.
TSCA (USA)	All components in compliance.

National Legislation
Environmental Protection Act 1990 (as amended).
Health and Safety at Work Act 1974
Consumers Protection Act 1987
Control of Pollution Act 1974
Environmental Act 1995
Factories Act 1961
Carriage of Dangerous Goods by Road and Rail (Classification, Packaging and Labelling) Regulations
Chemicals (Hazard Information and Packaging for Supply) Regulations 2002.
Control of Substances Hazardous to Health Regulations 1994 (as amended).
Road Traffic (Carriage of Dangerous Substances in Packages) Regulations
Merchant Shipping (Dangerous Goods and Marine Pollutants) Regulations
Road Traffic (Carriage of Dangerous Substances in Road Tankers in Tank Containers) Regulations
Road Traffic (Training of Drivers of Vehicles Carrying Dangerous Goods) Regulations
Reporting of Injuries, Diseases and Dangerous Occurences Regulations
Health and Safety (First Aid) Regulations 1981

SHELL AGRICULTURAL GAS OIL

Data Sheet No. F32002 Revision : 02 10 2002 REPLACES F32002 : 11 01 01

This data sheet has been prepared in accordance with the requirements of the Data Sheet Directive 91/155/EEC.

RECOMMENDED USES

Shell Agricultural Gas Oil is recommended for use as :

a fuel for small industrial boilers for horticultural and agricultural space heating applications, furnaces and dryers.

If Shell Agricultural Gas Oil is used for a purpose not covered in this section, Shell UK Ltd would be grateful to receive information on the application.

KNOWN MISUSES/ABUSES

Shell Agricultural Gas Oil is not to be used as :

a solvent or cleaning agent. It should never be siphoned by sucking the liquid up a tube by mouth, or stored near sources of heat or ignition.

The disposal of Shell Agricultural Gas Oil to soil, watercourses and drains is a legal offence.

1: IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

PRODUCT :	**SHELL AGRICULTURAL GAS OIL**
COMPANY :	**SHELL UK OIL PRODUCTS LIMITED**
TECHNICAL CONTACT:	**PRODUCT HSE DEPARTMENT**
ADDRESS :	**STANLOW MANUFACTURING COMPLEX, PO BOX 3, ELLESMERE PORT, CH65 4HB**
TELEPHONE :	**0151-350-4000**
EMERGENCY TELEPHONE NUMBER :	**0151-350-4595**

2: COMPOSITION/INFORMATION ON INGREDIENTS

Shell Agricultural Gas Oil is a preparation manufactured from gas oils, derived from crude petroleum, and additives, none of which impart any additional hazard to the finished product.

The hydrocarbon components will include straight-run gas oil, and may contain vacuum and/or cracked gas oil components.

It is a requirement of H.M. Customs and Excise that all reduced duty fuels contain Quinizarin and C.I. Solvent Red 24. Rebated fuels marketed within the European Union must also contain C.I. Solvent Yellow 124. Shell Agricultural Gas Oil contains C.I.Solvent Red 24, Quinizarin and C.I. Solvent Yellow 124 at 4 ppm, 1.75 ppm and 6 ppm respectively.

The following components, which have health effects, are present at significant concentrations.

CONC.	COMPONENT	EINECS	CLASS	RISK PHRASES
< 100%	Fuels, diesel	269-822-7	Xn	R40 Limited evidence of a carcinogenic effect
			Xn	R65 Harmful: may cause lung damage if swallowed R66 Repeated exposure may cause skin dryness and cracking
			N	R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Exposure limit values exist for the following constituents:

None.

ID: QJ240-en-11519