

**Pedestal Crane (Articulating Telescopic Boom)**

**PT. INSPEKTINDO SINERGI PERSADA**

**Pedestal Crane  
(Articulating Telescopic Boom)  
TIK-5-0377**



**Customer** : **PERTAMINA HULU MAHAKAM**  
**Location** : **NPU - LOADING JETTY**  
**Inspection Date** : **2022/07/05**  
**Inspector (s)** : **- Yonas Febrian**  
 : **- Nico Achmad Z.**

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# INSPECTION REPORT

## REPORT OF TEST & THOROUGH EXAMINATION OF A CRANE

<b>Date of report:</b>	2022/07/05	<b>Report Number:</b>	ISP.YF.TIK-5-0377/07/22.V	
<b>P.O.Number:</b>		<b>RFI Number:</b>		
<b>Client:</b>	<b>PT. Pertamina Hulu Mahakam</b> Jalan Yos Sudarso, Jl. Karang Jati Dalam No.1, Mekar Sari Balikpapan Tengah, Kota Balikpapan Kalimantan Timur 76111	<b>Location:</b>	NPU – LOADING JETTY	
<b>Start date of test &amp; thorough examination:</b>	2022/07/05	<b>End date of test &amp; thorough examination:</b>	2022/07/05	
<b>Make and model of crane:</b>	HIAB AB SWEDEN & HIAB 175-3 B			
<b>Type of crane and nature of power (e.g. crawler crane, mobile/telescopic hydraulic):</b>	<b>Pedestal Crane – Articulating Telescopic Boom</b> <b>Scope of Inspection 6 Month:</b> <ol style="list-style-type: none"> <li>1. Visual examination</li> <li>2. Function &amp; performance test 15% SWL</li> </ol>			
<b>Date of manufacture:</b>	2004	<b>Serial Number:</b>	17502559	
<b>Make and type of rated load capacity indicator:</b>	N/A			
<b>Last test details (if known):</b>	2022/01/14.T By ISP			
<b>Safe working load or loads:</b> <small>In the case of a crane with variable operating radius (including a crane with a derricking jib or with interchangeable jibs of different lengths) the safe working load at various radii of the jib, jibs trolley or crab should be given. Test loads at various radii should be given in column (iii) and in the case a safe working load which has been calculated without the application of a test load "NIL" should be entered in that column.</small>	<b>Length of Jib (metres)</b>	<b>Radius (metres)</b>	<b>Test load (Kgs)</b>	<b>Safe working load (Kgs)</b>
	<b>6.2</b>	<b>2.3</b>	<b>740</b>	<b>5,000</b>
<b>Minimum radius at which the jib or jibs may be worked (metres):</b>	2.3 meter			
<b>Defects noted and alterations or repairs required before the crane is put into service. (if none enter "NONE"):</b>	Minor hydraulic oil leakage on gearbox assembly, required to maintenance			
<b>Acceptance criteria: ASME B02.22 &amp; API Spec 2D</b>				
<b>Inspection result: IS THIS EQUIPMENT SAFE TO OPERATE?</b>			YES	<input checked="" type="checkbox"/> No
Name of the person making this report:    <b>Yonas Febrin</b> CI,LGI, ASNT MT/PT LEVEL II		Name of the person authenticating this report:   <b>Project Supervisor</b> Juli Purwanto CI, MT/PT ASNT LVL II, LGI, LEEA		Latest date for next examination:  <p style="text-align: center; font-weight: bold;">July 04<sup>th</sup> ,2023</p>



# INSPECTION CHECK LIST

# OFFSHORE PEDESTAL CRANE CHECKLIST

Refer to work method ISP/WML/039



Identification No: <b>TK-5-0377</b>	Date: <b>2022/07/05</b>	Inspector name: <b>LONAS FEBRIAN</b>
SWL / WLL <b>5 TON</b>	Location: <b>NPI - LOADING JETTY</b>	Customer Ref:

Component / area	Visual satisfactory	Requires attention	Not applicable	Comments
<b>Certification information</b>				
Report of a test & examination	✓			
Proof load certificate	✓			ISP. AS. TK-50377/01/22.T
Thorough visual examination	✓			
Declaration of conformity			✓	
1. Wire rope certificate			✓	
2. Hook certificate			✓	
3. LMI calibration record			✓	
4. Previous inspection report	✓			
5. Winch certificate			✓	
6. Electrical check			✓	
7. All rigging hardware			✓	
Non Destruct test			✓	
Manufacturer Operation and Maintenance Manual			✓	
Maintenance Record	✓			
Daily lg Book			✓	
Operator crane certificate				
Other (specify)			✓	
<b>Physical markings</b>				
SWL, WLL, rated capacity at various radii / boom angle	✓			
Identification number(s)	✓			
Inspection Marking	✓			
Counter weight Marking			✓	
Name plate manufacture	✓			
Other markings i.e. de-rating factor			✓	
<b>External pedestal</b>				
Condition of coating or paint	✓			
Structure components	✓			
Lights and fittings			✓	
Weldments	✓			
Bolted connections	✓			



# OFFSHORE PEDESTAL CRANE CHECKLIST

Refer to work method ISP/WM/L/039



Component / area	Visual satisfactory	Requires attention	Not applicable	Comments
Ladders			✓	
Backscratchers			✓	
Landings			✓	
<b>Internal pedestal</b>				
Condition of coating or paint			✓	
Structure components			✓	
Lights and fittings			✓	
Weldments			✓	
Bolted connections			✓	
Ladders			✓	
Backscratchers			✓	
Landings			✓	
Entry access point / Main hole Condition			✓	
Accumulation of contaminants such as oil or grease			✓	
<b>King post</b>				
Ladders			✓	
Backscratchers			✓	
Landings / walkways			✓	
Walkway clear of obstructions			✓	
Handrails			✓	
Kick-boards			✓	
Hatches and safety latches			✓	
Lights and fittings			✓	
Weldments			✓	
Bolted connections			✓	
Condition of coating or paint			✓	
<b>Cabin</b>				
External structure			✓	
Cabin mountings			✓	
Windscreen glass complete and clear			✓	
Windscreen wipers complete and operational			✓	
Water dispenser operational			✓	
Cabin heater / de-mister operational			✓	
Pressure Gauge Condition	✓			



# OFFSHORE PEDESTAL CRANE CHECKLIST

Refer to work method ISP/WML/039



Component / area	Visual satisfactory	Requires attention	Not applicable	Comments
Operator Seat			✓	
Cabin lights operational			✓	
Cabin door lockable / secure			✓	
Control levers clearly marked and return to neutral		✓		LEVER MARKING BLURRED SHALL BE MAINTAIN
De-rating or duty chart located conspicuously in cabin	✓			
Deck horn operational			✓	
Communications operational			✓	
Anemometer operational			✓	
Fire extinguisher readily available in or near cabin	✓			
Condition of coating or paint			✓	
<b>Safety Devices</b>				
radius indicator			✓	
Angel Indicator			✓	
Load Indicator			✓	
Warning Light operation			✓	
Boom upper and lower limits	✓			
Gross overload protection system (GOP) functional. To include visual/audible warnings			✓	
Main Hoist Limit Switch			✓	
Aux. Hoist Limit Switch			✓	
Telescopic Limit Switch	✓			
Swing Limit Switch			✓	
Emergency Shutdown (ESD)	✓			
<b>Machinery housing</b>				
External structure	✓			
Condition of coating or paint	✓			
Landings / walkway			✓	
Walkway clear of obstructions			✓	
Handrails			✓	
Kick-boards			✓	
Lights and fittings			✓	
Weldments			✓	
Bolted connections			✓	
Housing lights operational			✓	
Housing door lockable / secure			✓	





# OFFSHORE PEDESTAL CRANE CHECKLIST

Refer to work method ISP/WM/L/039



Component / area	Visual satisfactory	Requires attention	Not applicable	Comments
Ventilation ducts operational	✓			
Machinery compartment clean and tidy	✓			
Oil leaks from gear boxes, accumulators, tanks etc		✓		MINOR HYDRAULIC OIL LEAKAGE ON GEARBOX ASSY, REQUIRED TO MAINTENANCE
Diesel or water leaks from engine	✓			
Electrical equipment in sound condition and not exposed to contaminants	✓			
Fire extinguisher readily available in or near housing	✓			
Condition of hose connection	✓			
Radiator	✓			
Fan Belt	✓			
Engine oil level	✓			
Engine Mounting	✓			
Muffler, Spark arrestor	✓			
Air Inlet	✓			
<b>Electrical System</b>				
Battery & Compartment	✓			
Circuit Breaker / Junction box electrical	✓			
Control System	✓			
Grounding System	✓			
Electrical installation	✓			
<b>'A' frame</b>				
Ladders			✓	
Landings / walkway			✓	
Walkway clear of obstructions			✓	
Handrails			✓	
Kick-boards			✓	
Lights and fittings			✓	
"A" frame weldments			✓	
"A" frame bolted connections			✓	
Boom backstop points checked for deformation, operation, etc			✓	
Condition of coating or paint			✓	
Helicopter warning lights			✓	
Condition of sheave bodies			✓	



# OFFSHORE PEDESTAL CRANE CHECKLIST

Refer to work method ISP/WM/L/039



Component / area	Visual satisfactory	Requires attention	Not applicable	Comments
Sheave profiles			✓	
Keeper plates and locking tabs			✓	
Rope displacement guards			✓	
Grease points and fittings			✓	
Anchorage point for boom rope			✓	
Ultimate protection system (UPS) components			✓	
<b>Bridle</b>				
Weldments			✓	
Bolted connections			✓	
Condition of sheave bodies			✓	
Sheave profiles			✓	
Rope displacement guards			✓	
Keeper plates and locking tabs			✓	
Grease points and fittings			✓	
Pendant anchorage points			✓	
Boom pendants			✓	
Condition of coating or paint			✓	
<b>Boom head section</b>				
Auxiliary line jib extension			✓	
Condition of sheave bodies			✓	
Sheave profiles			✓	
Keeper plates and locking tabs			✓	
Rope displacement guards			✓	
Grease points and fittings			✓	
Anchorage point for hoist rope			✓	
Anchorage point for pendants			✓	
Condition of coating or paint	✓			
Condition of main cords			✓	
Condition of lacing			✓	
Lacing to chord weldments			✓	
Boom section joints / bolting	✓			
Boom lights and fittings			✓	
Helicopter warning lights			✓	
Walkway condition			✓	
Walkway clear of obstructions			✓	
Handrails			✓	



# OFFSHORE PEDESTAL CRANE CHECKLIST

Refer to work method ISP/WM/L/039



Component / area	Visual satisfactory	Requires attention	Not applicable	Comments
Kick-boards			✓	
<b>Boom intermediate section #1</b>				
Condition of coating or paint	✓			
Condition of main cords			✓	
Condition of lacing			✓	
Lacing to chord weldments			✓	
Boom section joints / bolting	✓			
Sheave diverter points			✓	
Boom lights and fittings			✓	
Walkway condition			✓	
Walkway clear of obstructions			✓	
Handrails			✓	
Kick-boards			✓	
<b>Boom intermediate section #2</b>				
Condition of coating or paint	✓			
Condition of main cords			✓	
Condition of lacing			✓	
Lacing to chord weldments			✓	
Boom section joints / bolting	✓			
Sheave diverter points			✓	
Boom lights and fittings			✓	
Walkway condition			✓	
Walkway clear of obstructions			✓	
Handrails			✓	
Kick-boards			✓	
<b>Base Boom section</b>				
Condition of coating or paint			✓	
Condition of main cords			✓	
Condition of lacing			✓	
Lacing to chord weldments			✓	
Boom section joints / bolting	✓			
Boom foot pins	✓			
Boom foot keeper and locking plates	✓			
Grease points and fittings			✓	
Boom lights and fittings			✓	
Walkway condition			✓	



# OFFSHORE PEDESTAL CRANE CHECKLIST

Refer to work method ISP/WM/L/039



Component / area	Visual satisfactory	Requires attention	Not applicable	Comments
Walkway clear of obstructions			✓	
Handrails			✓	
Kick-boards			✓	
<b>Fly Jib Extension</b>				
Condition of coating or paint			✓	
Fly jib boom condition			✓	
Bracing			✓	
Interconnection Boom bolt, rivet, pin			✓	
<b>Telescopic Boom</b>				
Condition of coating or paint	✓			
Telescopic boom condition	✓			
Boom section	✓			
Boom tip sheave			✓	
Sheave safe guard			✓	
Sheave groove			✓	
Wire rope guard			✓	
Boom foot pin	✓			
<b>Inner / Outer Bail</b>				
Frame	✓			
Lifting eye	✓			
Sheaves			✓	
<b>Boom Lift Cylinder</b>				
Condition of coating or paint	✓			
Boom foot pins	✓			
Boom foot keeper and locking plates	✓			
Visual of boom cylinder	✓			
Condition of hydraulic hose & bolt connection	✓			
Condition of cylinder/Piston Rod	✓			
Condition of cylinder head	✓			
Condition of cylinder seal	✓			
<b>Main hoist winch</b>				
Winch hold-down bolts			✓	
Bolts and locking tabs			✓	
Hydraulics checked for leaks			✓	
Condition and operation of braking			✓	



# OFFSHORE PEDESTAL CRANE CHECKLIST

Refer to work method ISP/WM/L/039



Component / area	Visual satisfactory	Requires attention	Not applicable	Comments
system			✓	
Rope anchorage/securing point			✓	
Condition of coating or paint			✓	
Condition of hydraulic hose connection			✓	
Condition winch drum			✓	
<b>Auxiliary hoist winch</b>				
Winch hold-down bolts			✓	
Bolts and locking tabs			✓	
Hydraulics checked for leaks			✓	
Condition and operation of braking system			✓	
Rope anchorage/securing point			✓	
Condition of coating or paint			✓	
Condition of hydraulic hose connection			✓	
Condition winch drum			✓	
<b>Boom hoist winch</b>				
Winch hold-down bolts			✓	
Bolts and locking tabs			✓	
Hydraulics checked for leaks			✓	
Condition and operation of braking system			✓	
Rope anchorage/securing point			✓	
Operation of boom pawl			✓	
Condition of coating or paint			✓	
Condition of hydraulic hose connection			✓	
Condition winch drum			✓	
<b>Slew unit</b>				
Slew ring and pinion	✓			
External slew ring bolts	✓			
External bolts protected	✓			
Internal slew ring bolts	✓			
Hydraulic fittings / connections	✓			
Lubrication on gears	✓			
Grease points and fittings	✓			
Slewing operation and brakes	✓			
Slewing lock	✓			



# OFFSHORE PEDESTAL CRANE CHECKLIST

Refer to work method ISP/WM/L/039



Component / area	Visual satisfactory	Requires attention	Not applicable	Comments
Operation of limit switches			✓	
Condition of hydraulic hose connection	✓			
<b>Main block</b>				
Condition of coating or paint			✓	
Condition of sheave bodies			✓	
Sheave profiles			✓	
Keeper plates and locking tabs			✓	
Rope displacement guards			✓	
Grease points and fittings			✓	
Anchorage point (becket)			✓	
Hook and safety latch			✓	
Condition of load pins			✓	
Freedom of swivel			✓	
Anti-Two Blocking			✓	
<b>Headache ball</b>				
Condition of coating or paint			✓	
Hook and safety latch			✓	
Freedom of swivel			✓	
Condition of load pin			✓	
Anti-Two Blocking			✓	

Result : **FIT FOR USE**

Finding : **MINOR HYDRAULIC OIL LEAKAGE ON GEARBOX ASSY., REQUIRED TO MAINTENANCE**

### Remark

Put ✓ mark in the chosen column.

-\* Cross out that doesn't match.

N/A\* Not applicable



# PHOTOGRAPHIC REPORT

<b>Date of report:</b>	2022/07/05	<b>Report Number:</b>	ISP.YF.TIK-5-0377/07/22.V
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<b>Item details:</b>	<p><b>TIK-5-0377</b>  <b>Pedestal Crane (Articulating Telescopic Boom)</b>          Manufacturer : HIAB AB SWEDEN          Date Manufacture : 2004          Serial no : 17502559          Model : HIAB 175-3          Boom length : 2.3-9.8 m          Maximum SWL : 6.3 t</p>
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**Photographic details**



View of Equipment



View of TIK No. & Color Code



View of Serial Number



View of Load Chart





<b>Date of report:</b>	2022/07/05	<b>Report Number:</b>	ISP.YF.TIK-5-0377/07/22.V
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<b>Item details:</b>	<p><b>TIK-5-0377</b>  <b>Pedestal Crane (Articulating Telescopic Boom)</b>          Manufacturer : HIAB AB SWEDEN          Date Manufacture : 2004          Serial no : 17502559          Model : HIAB 175-3          Boom length : 2.3-9.8 m          Maximum SWL : 6.3 t</p>
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**Photographic details**



View of 1<sup>st</sup> lever control



View of 2<sup>nd</sup> lever control



View of Powerpack



<b>Date of report:</b>	2022/07/05	<b>Report Number:</b>	ISP.YF.TIK-5-0377/07/22.V
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<b>Item details:</b>	<p><b>TIK-5-0377</b>  <b>Pedestal Crane (Articulating Telescopic Boom)</b>          Manufacturer : HIAB AB SWEDEN          Date Manufacture : 2004          Serial no : 17502559          Model : HIAB 175-3          Boom length : 2.3-9.8 m          Maximum SWL : 6.3 t</p>
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**Photographic details**



View of 1<sup>st</sup> lever control



View of 2<sup>nd</sup> lever control



View of Function and Performance Test 15% SWL



# SITE MEMO

## SITE MEMO

Date of Inspection : 2022/07/05  
Client/Owner : **PERTAMINA HULU MAHAKAM**  
Location : NPU – Loading Jetty

### **Statement:**

Refer to inspection Pedestal Articulating Boom at Pertamina Hulu Mahakam on 2022/07/05, PT. ISP has been perform functional test Inspection Of 1 (one) unit "**Pedestal Articulating Boom**", with data and result as follows:

### **I. Equipment Data:**

Equipment : **Pedestal Articulating Boom**  
TIK No : **5-0377**  
Owner : Pertamina Hulu Mahakam  
Manufacturer : Hiab AB Hudiksual, Sweden  
Capacity : 5 Ton  
Serial No/Model : 17502559  
Year of Built /Used : 2004

### **II. Inspection Result:**

No	Inspection Item	Method of Inspection
1.	Visual Inspection	Visual Inspection
2.	Funtion & Performance Test	Funtion & Performance Test

### **Remark:**

- **Minor hydraulic oil leakage on gearbox assembly, required to maintenance**

Result: **FIT FOR USE**



**Yonas Febrin**  
Crane Inspector  
**Company Approved**

**Rifqi Arifin**  
Company Representative

# MAINTENANCE REPORT

**LIFTING EQUIPMENT AND BURNER BOOM MAINTENANCE (JOB - 4600005733)**

**Customer** : PERTAMINA HULU MAHAKAM

**Equipment** : KNUCKLE BOOM CRANE SWL 5.0 T

**Crane Model** : HIAB CRANE 175-3

**Serial No.** : 17502559 (Manufactured 2004)

**Location** : NPU – LOADING JETTY

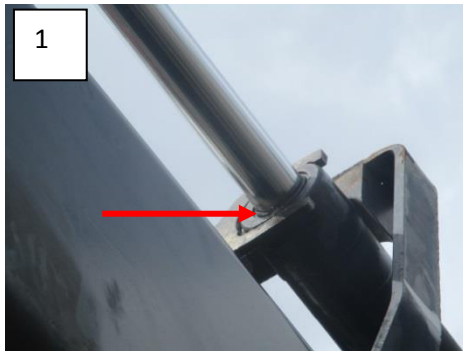
**W/O No.** :

**TIK No.** : 5-0377

**Date** : 29 June – 01 July  
2022

**Performer** : Jefri, Ujang

**Subject** : Intervention Oil leaks at boom cylinder telescope #1 and Oil leak at Swing gearbox



**ACTION**

Preparation

1. Pre-check condition of Cylinder telescope #1, oil leak/oil already come out from lip seal
2. Reposition boom telescope on position accessible intervention cylinder telescope #1
3. Marking hydraulic hose cylinder telescope and disconnected hyd.hose and tubing connectors
4. Removed cylinder telescope #1, with remove upper pin and remove lock base mounting cylinder at bottom position
5. Transfer telescope cylinder to the workshop and dismantle for cylinder
6. Identification part number for seal Cylinder boom Telescope #1 : **3301583**

**LIFTING EQUIPMENT AND BURNER BOOM MAINTENANCE (JOB - 460005733)**

❖ **Intervention/re-seal Cylinder Boom Telescope #1**



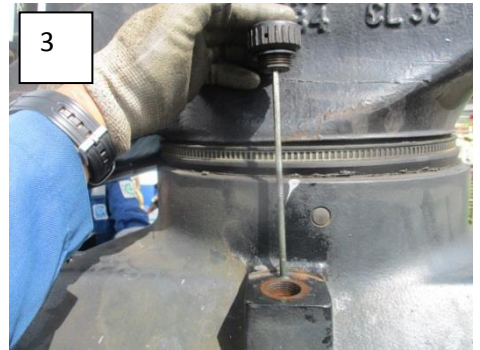
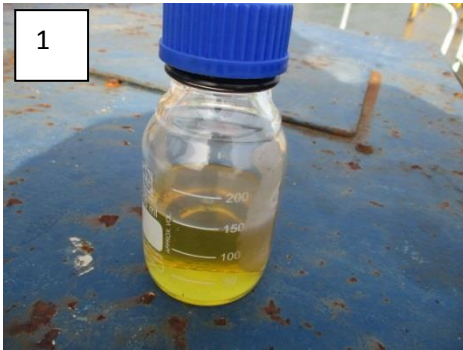
**ACTION**

**Re-seal Telescope Cylinder #1:**

- Check condition of Rod cylinder and check inside of barrel
- Visual check condition of seal piston and removed the piston rod
- Check condition the old seal was fatigue
- Perform install all of the seal with new parts
- Assembly rod cylinder to the barrel
- Re-install cylinder telescope to the crane, connected all hyd.hose and tubing connectors

**LIFTING EQUIPMENT AND BURNER BOOM MAINTENANCE (JOB - 4600005733)**

❖ Perform general check before function test



**ACTION**

1. Take sampling hydraulic oil from hyd.tank (visual check good condition)
2. Top up hyd.oil Presilia 32 for 10 liters, check hydraulic oil is proper level
3. Check oil level for Swing gearbox, found good level





**LIFTING EQUIPMENT AND BURNER BOOM MAINTENANCE (JOB - 4600005733)**

**ACTION**

1. Follow up finding to adjustment spring on safety latch hook, lubricated hook pin
2. Check slide pad telescope, found over all is going to worn out
3. Lubricated telescope boom
4. Follow up finding to replaced nipple grease on crane, replaced for 3 pieces (done)  
Lubricated all nipple grease point at all cylinder boom or knuckle boom

❖ **Perform Function test after re-seal cylinder boom**



**ACTION**

**Perform general function test without load and reading working pressure:**

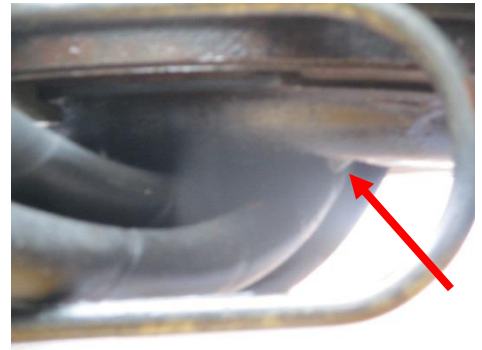
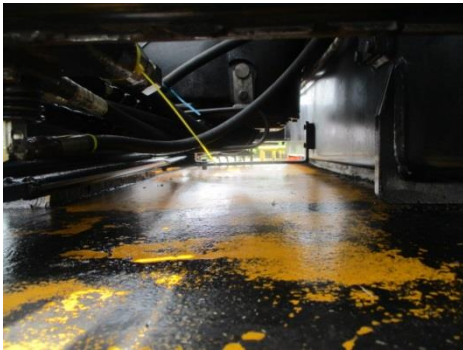
- |                                     |                                 |
|-------------------------------------|---------------------------------|
| ❖ Telescope <b>out</b> : 2800 Psi,  | Telescope <b>in</b> : 2600 Psi  |
| ❖ Outer boom <b>out</b> : 2700 Psi, | Outer boom <b>in</b> : 2100 Psi |
| ❖ Inner boom <b>out</b> : 3500 Psi, | Inner boom <b>in</b> : 3600 Psi |
| ❖ Slew <b>right</b> : 3300 Psi,     | Slew <b>left</b> : 3300 Psi     |

Note:

Monitoring condition of hydraulic cylinder telescope #1 during crane operation, found good  
Function test with load main basket (name plate weight tare 740 Kg), found good performance

**LIFTING EQUIPMENT AND BURNER BOOM MAINTENANCE (JOB - 4600005733)**

❖ FINDING REPORT



**FINDING**

- Found see page oil at swing gearbox area
- Identify see page oil is gear oil/SAE 85-90
- Temporary action with put on small basket under swing gearbox
- Recommended to replace, **o ring P/N: 9921567**
- Recommended to replace, **seal P/N: 9818260**

**Note: to replacement of seal gearbox, have to remove crane unit from lower base for accessible works**

