

## Service manual of Stiff boom crane(Hiab 190T)

### 1. Disassembly and assembly of the booms

#### 1.1 1st Boom

- 1) Remove the wire rope from the hook.(fig. 1.1 & 1.2)
- 2) Remove the cover, the hydraulic pipes and the counter balance valve.(fig. 1.3)
- 3) Remove the pin which holds extension cylinder on the 1st boom.(fig. 1.3)
- 4) Remove the side pads and slide pads on the tip of the 1st boom.(fig. 1.4)
- 5) Pull out the 2nd and the other booms from the 1st boom by using hoist or cargo crane.(fig. 1.5)
- 6) Remove the connection pins between the column and the 1st boom and between the 1st boom and the derrick cylinder. (fig. 1.6)



Figure 1.1 removal of wire rope



Figure 1.2 removal of hook



Figure 1.3 removal of ext. cylinder pin



Figure 1.4 removal of sliding pads



Figure 1.5 removal of 2<sup>nd</sup> to 6<sup>th</sup>  
boom



Figure 1.6 removal of derrick  
cylinder pin

## 1.2 2nd Boom

- 1) Put the 2nd and the other booms on props and hold the end of the 2nd boom on a support.(fig. 1.7)
- 2) Remove the adjusting bolts on the front top of the 2nd boom.(fig. 1.8)
- 3) Remove the side pads and slide pads on the tip of the 2nd boom.(fig. 1.9)
- 4) Remove the pin which holds extension cylinder on the 2nd boom.
- 5) Pull out the 3rd and the other booms from the 2nd boom by using hoist crane(fig. 1.10) and forklift(fig. 1.11)



Figure 1.7 support 2<sup>nd</sup> boom



Figure 1.8 removal of adjusting bolts



Figure 1.9 removal of sliding pads



Figure 1.10 removal of 3<sup>rd</sup> to 6<sup>th</sup> boom



Figure 1.11 removal of 3<sup>rd</sup> to 6<sup>th</sup> boom



Figure 1.12 2<sup>nd</sup> boom

### 1.3 3rd Boom

- 1) Put the 3rd and the other booms on props and hold the end of the 3rd boom on a support.
- 2) Remove the adjusting nuts for extending wire rope, side pads and slide pads.(fig. 1.13)
- 3) Remove the pin which holds extension cylinder on the 3rd boom.(fig. 1.14, 1.15)
- 4) Pull out the 4th and the other booms from the 3rd boom by using hoist crane(fig. 1.16) and forklift(fig. 1.17)



Figure 1.13 removal of adjusting nut of extending wire rope



Figure 1.14 removal of retaining ring



Figure 1.15 removal of ext. cylinder pin



Figure 1.16 removal of 4<sup>th</sup> to 6<sup>th</sup> boom



Figure 1.17 removal of 4<sup>th</sup> to 6<sup>th</sup> boom

## 1.4 4th Boom

First, remove extension cylinders inside boom

- 1) Remove the front cover of 6th boom.
- 2) Make a mark on the bolt for the tightening location in order to keep the same tension of the retracting wire rope and then remove the bolt. (fig. 1.19, 1.20)



Figure 1.18 4<sup>th</sup> to 6<sup>th</sup> boom



Figure 1.19 marking on the bolt



Figure 1.20 removal of the bolt

- 3) Remove the pin which holds extension cylinder on the 4th boom.(fig. 1.21)
- 4) Remove the pin which holds retracting wire rope on the 4th boom.(fig. 1.22)



Figure 1.21 removal of ext. cylinder  
pin



Figure 1.22 removal of retracting wire  
rope

5) Pull out the extension cylinder from the booms.(fig. 1.23, 1.24, 1.25)



Figure 1.23 removal of extension cylinder    Figure 1.24 removal of extension cylinder



Figure 1.25 extension cylinder on a prop

6) Remove the adjusting nuts for extending wire rope, side pads and slide pads.(fig. 1.26, 1.27)

7) Pull out the 5th and 6th boom from the 4th boom.(fig. 1.28)



Figure 1.26 removal of adjusting nut



Figure 1.27 removal of side pads



Figure 1.28 removal of 5<sup>th</sup> and 6<sup>th</sup> boom

## 1.5 5th and 6th Boom

- 1) Remove the adjusting bolts on the front top of the 5th boom, side pads and slide pads.(fig. 1.29)
- 2) Pull out the 6th boom from the 5th boom.(fig. 1.30, 1.31)



Figure 1.29 removal of slide pads



Figure 1.30 removal of 6<sup>th</sup> boom

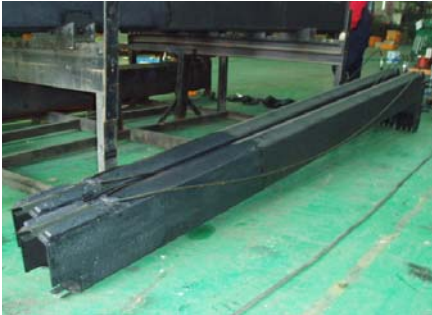


Figure 1.31 6th boom

## 1.6 Removal of retracting wire rope

- 1) Remove the wire rope from the rollers and protectors by using L-wrench or screw driver.(fig. 1.32 – 1.37)
- 2) Put the wire rope on a clean place.



Figure 1.32 removal of wire rope



Figure 1.33 removal of wire rope



Figure 1.34 removal of wire rope



Figure 1.35 removal of wire rope

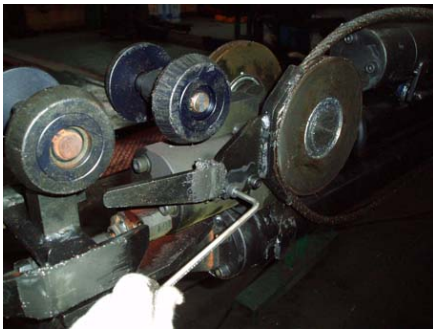


Figure 1.36 removal of wire rope

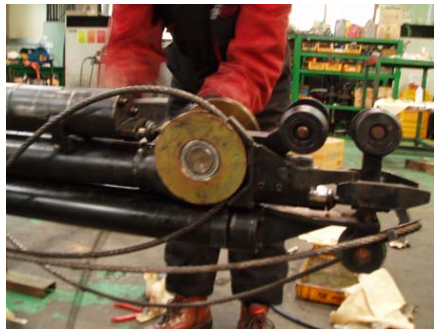


Figure 1.37 removal of wire rope