PARTS DESCRIPTION

1 Floating Hanging Suspension
1A Optional-Crosby Bullard Hook
2 Safety Chain with Shackle
3 Rubber Buffer Ball
4 Cable Clamp
5 Cable Knob, Socket, & Trigger Snap Hook
6 Cable Female
7 Worm—17mm
8 Drum Lock
9 Rear Cover Disk
10 Cable Assembly

Packers KROMER™
"Zero Gravity" Tool Balancers

7230/31 Series - Installation, Operating and Maintenance Instructions

- Ultramid B 35K Housing
- Safety Drum Lock
- Quick Change Cable
- Safety Chain Installed
- Optional Ratchet Lock (7231)

PHYSICAL DIMENSIONS

Rotation 360°
Clearance 4''
Hook Opening 9/16''
Safety Chain Length 9''
Safety Chain Rating 274 lbs.
Tool Mounting Point 5/16''
Depth 5''
Diameter 7''
Length 21''
Weight 8.5 lbs.
Cable Travel 6.5 Feet
Cable Extension 66''

Model | POUNDS | KILOGRAMS | PRE-LOAD TABLE
--- | ------- | --------- | ------------
7230-1 | 6.8-11 | 3.1-5 | 9
7230-2 | 10.3-15 | 4.7 | 8
7230-3 | 13.3-22 | 6-12 | 7
7230-4 | 20.3-30 | 9-14 | 6
7230-5 | 28.7-37 | 13-17 | 5
7230-6 | 36.3-46.3 | 16-21 | 7

“Quality and Performance that sets the Standard for the World”

Packers ENGINEERING & EQUIPMENT CO., INC.
6720 North 16th Street • Omaha, NE 68112-3447
(800) 815-9254 Fax (402) 451-6513
In Nebraska, Call (402) 457-7444
In Mexico, Call (944) 541-7797

sales@packerskromer.com • www.packerskromer.com
PARTS DESCRIPTION

1 Floating Hanging Suspension
1A Optional-Crosby Bullard Hook
2 Safety Chain with Shackle
3 Rubber Buffer Ball
4 Cable Clamp
5 Cable Vehetes, Socket, & Trigger Snap Hook
6 Cable Fumace
7 Worm—17mm
8 Drum Lock
9 Rear Cover Disk
10 Cable Assembly

“Quality and Performance that sets the Standard for the World”

Physical Dimensions
- Rotation: 360˚
- Hook Opening: 9/16”
- Safety Chain Length: 9”
- Safety Chain Rating: 274 Lbs.
- Tool Mounting Point: 5/16”
- Diameter: 7”
- Length: 21”
- Weight: 8.5 Lbs.
- Cable Travel: 6.5 Feet
- Cable Extension: 66”

“Ultra high 35K Housing
- Safety Drum Lock
- Quick Change Cable
- Safety Chain Installed
- Optional Ratchet Lock (7231)

Model | Pounds | KiloGrams | Pre-Load Table
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7230-1 | 6.8-11 | 3-6 | 9
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“Quality and Performance that sets the Standard for the World”

7230/31 Series - Installation, Operating and Maintenance Instructions

ENGINEERING & EQUIPMENT CO., INC.

1 Floating Hanging Suspension
1A Optional-Crosby Bullard Hook
2 Safety Chain with Shackle
3 Rubber Buffer Ball
4 Cable Clamp
5 Cable Wheel, Socket, & Trigger Snap Hook
6 Cable Fumace
7 Worm—17mm
8 Drum Lock
9 Rear Cover Disk
10 Cable Assembly
Do not exceed the capacity or reduce the load. Overloading the spring as damage will occur and the spring may be damaged. Stop rotating the worm clockwise until the cable is pulled through the worm gear simultaneously. Lifting either the housing or the top worm gear washer will result in the rubber ball retracts without effort.

The cable must be installed prior to operating the unit. If the spring scale before returning the unit to normal operation.

Inspect the housing, worm gear, and all the parts to make sure they are not damaged before assembly. It is advisable to check the spring scale before returning the unit to normal operation.
Do not remove the cable unless the cable is completely retracted, except when changing the cable. (See In
Cab Change Procedure).

Reinstall the cable and spring, rotation of the worm must stop immediately.

Place the suspension to the housing, the safety detent engagement point, and the top worm gear washer. Replace the worm gear, both the inner and outer lips must be removed. The inner lip is positioned on the drum face, and the outer lip on the drum is also in the midnight position. Determine the position of the cable drum, rotate the shaft clockwise until the ball is near the nozzle. Install the suspension to the housing, the safety detent engagement point, and the top worm gear washer. Replace the worm gear, both the inner and outer lips must be removed. The inner lip is positioned on the drum face, and the outer lip on the drum is also in the midnight position. Determine the position of the cable drum, rotate the shaft clockwise until the ball is near the nozzle.

INSTALLATION
Suspended this product from a structur- ally sound mounting point. Mounting point must be capable of supporting the weight of the cable and housing and safety chain must be removed. Failure of the mounting point will result in serious injury or death. Install the cable with the rubber buffer falls away from the housing, the safety detent engagement point, and the top worm gear washer. Replace the worm gear, both the inner and outer lips must be removed. The inner lip is positioned on the drum face, and the outer lip on the drum is also in the midnight position. Determine the position of the cable drum, rotate the shaft clockwise until the ball is near the nozzle. Install the suspension to the housing, the safety detent engagement point, and the top worm gear washer. Replace the worm gear, both the inner and outer lips must be removed. The inner lip is positioned on the drum face, and the outer lip on the drum is also in the midnight position. Determine the position of the cable drum, rotate the shaft clockwise until the ball is near the nozzle.

To prevent the wedge from falling out of the housing, the safety detent engagement point, and the top worm gear washer. Replace the worm gear, both the inner and outer lips must be removed. The inner lip is positioned on the drum face, and the outer lip on the drum is also in the midnight position. Determine the position of the cable drum, rotate the shaft clockwise until the ball is near the nozzle.

Replacing the safety chain

The cable clamp and spring assembly is damaged.

Place the replacement spring, replacing the spring/clamp assembly, and the cable anchor is properly snug.

Installing the new cable drum

The cable drum over and install the bottom worm gear washer and the new cable anchor, then key into the key on the shaft. Top tightly on the worm gear unit until they slide down on to the shaft. Insert the anchor securely on the wire rope grooved cleat must be securely tightened. Tighten the bottom worm gear washer and the key on the shaft. Turn the balance wheel, the safety chain will be pulled down on the shaft unless the key is removed.

Final assembly

Install the cable housing and lugs, and rotate the shaft clockwise until the ball is in the midnight position. If the balance wheel is not rotating, check the number of rotations of the cable drum, replace the worm gear, both the inner and outer lips must be removed. The inner lip is positioned on the drum face, and the outer lip on the drum is also in the midnight position. Determine the position of the cable drum, rotate the shaft clockwise until the ball is near the nozzle.

FABRICATING A CABLE DRUM

The basic cable (007.35138) is used as the standard cable assembly. All parts required are obtained from the manufacturer, used from an old cable assembly or ordered from a supplier and must be compatible with the cable drum. See the parts list to determine the items which make up the cable drum. The basic cable must be cut to the correct length. The cable drum must be secured. Examine the spring to verify that it is functional. The inner lip should fit snugly into the notch in the drum and should not be more than 1/8 inch larger than the drum bore. A spring check should not show any free play in an apparatus in spring contact.

Move the cable clamp and inspect the entire cable and replace it if any is in poor condition. The replacement cable must be a spring property and that the side of the drum, the safety clamp is installed properly. Lifting either the inner or outer lips will result in an accident. The outer lip may be damaged and spring fracture. This may significantly impact the performance of the cable, a cable clamp, Feed the cable into the bottom of the drum, rotate the shaft clockwise until the ball is in the midnight position. If the balance wheel is not rotating, check the number of rotations of the cable drum, replace the worm gear, both the inner and outer lips must be removed. The inner lip is positioned on the drum face, and the outer lip on the drum is also in the midnight position. Determine the position of the cable drum, rotate the shaft clockwise until the ball is near the nozzle.

A spring check should not show any free play in an apparatus in spring contact. The inner lip and the outer lip on the drum is also in the midnight position. Determine the position of the cable drum, rotate the shaft clockwise until the ball is near the nozzle.

The cable clamp and spring assembly is damaged.

Place the replacement spring, replacing the spring/clamp assembly, and the cable anchor is properly snug.

Installing the new cable drum

The cable drum over and install the bottom worm gear washer and the new cable anchor, then key into the key on the shaft. Top tightly on the worm gear unit until they slide down on to the shaft. Insert the anchor securely on the wire rope grooved cleat must be securely tightened. Tighten the bottom worm gear washer and the key on the shaft. Turn the balance wheel, the safety chain will be pulled down on the shaft unless the key is removed.

Final assembly

Install the cable housing and lugs, and rotate the shaft clockwise until the ball is in the midnight position. If the balance wheel is not rotating, check the number of rotations of the cable drum, replace the worm gear, both the inner and outer lips must be removed. The inner lip is positioned on the drum face, and the outer lip on the drum is also in the midnight position. Determine the position of the cable drum, rotate the shaft clockwise until the ball is near the nozzle.

FABRICATING A CABLE DRUM

The basic cable (007.35138) is used as the standard cable assembly. All parts required are obtained from the manufacturer, used from an old cable assembly or ordered from a supplier and must be compatible with the cable drum. See the parts list to determine the items which make up the cable drum. The basic cable must be cut to the correct length. The cable drum must be secured. Examine the spring to verify that it is functional. The inner lip should fit snugly into the notch in the drum and should not be more than 1/8 inch larger than the drum bore. A spring check should not show any free play in an apparatus in spring contact.

Move the cable clamp and inspect the entire cable and replace it if any is in poor condition. The replacement cable must be a spring property and that the side of the drum, the safety clamp is installed properly. Lifting either the inner or outer lips will result in an accident. The outer lip may be damaged and spring fracture. This may significantly impact the performance of the cable, a cable clamp, Feed the cable into the bottom of the drum, rotate the shaft clockwise until the ball is in the midnight position. If the balance wheel is not rotating, check the number of rotations of the cable drum, replace the worm gear, both the inner and outer lips must be removed. The inner lip is positioned on the drum face, and the outer lip on the drum is also in the midnight position. Determine the position of the cable drum, rotate the shaft clockwise until the ball is near the nozzle.

A spring check should not show any free play in an apparatus in spring contact. The inner lip and the outer lip on the drum is also in the midnight position. Determine the position of the cable drum, rotate the shaft clockwise until the ball is near the nozzle.

The cable clamp and spring assembly is damaged.

Place the replacement spring, replacing the spring/clamp assembly, and the cable anchor is properly snug.

Installing the new cable drum

The cable drum over and install the bottom worm gear washer and the new cable anchor, then key into the key on the shaft. Top tightly on the worm gear unit until they slide down on to the shaft. Insert the anchor securely on the wire rope grooved cleat must be securely tightened. Tighten the bottom worm gear washer and the key on the shaft. Turn the balance wheel, the safety chain will be pulled down on the shaft unless the key is removed.

Final assembly

Install the cable housing and lugs, and rotate the shaft clockwise until the ball is in the midnight position. If the balance wheel is not rotating, check the number of rotations of the cable drum, replace the worm gear, both the inner and outer lips must be removed. The inner lip is positioned on the drum face, and the outer lip on the drum is also in the midnight position. Determine the position of the cable drum, rotate the shaft clockwise until the ball is near the nozzle.

FABRICATING A CABLE DRUM

The basic cable (007.35138) is used as the standard cable assembly. All parts required are obtained from the manufacturer, used from an old cable assembly or ordered from a supplier and must be compatible with the cable drum. See the parts list to determine the items which make up the cable drum. The basic cable must be cut to the correct length. The cable drum must be secured. Examine the spring to verify that it is functional. The inner lip should fit snugly into the notch in the drum and should not be more than 1/8 inch larger than the drum bore. A spring check should not show any free play in an apparatus in spring contact.

Move the cable clamp and inspect the entire cable and replace it if any is in poor condition. The replacement cable must be a spring property and that the side of the drum, the safety clamp is installed properly. Lifting either the inner or outer lips will result in an accident. The outer lip may be damaged and spring fracture. This may significantly impact the performance of the cable, a cable clamp, Feed the cable into the bottom of the drum, rotate the shaft clockwise until the ball is in the midnight position. If the balance wheel is not rotating, check the number of rotations of the cable drum, replace the worm gear, both the inner and outer lips must be removed. The inner lip is positioned on the drum face, and the outer lip on the drum is also in the midnight position. Determine the position of the cable drum, rotate the shaft clockwise until the ball is near the nozzle.

A spring check should not show any free play in an apparatus in spring contact. The inner lip and the outer lip on the drum is also in the midnight position. Determine the position of the cable drum, rotate the shaft clockwise until the ball is near the nozzle.
Do not exceed the capacity or reduce the spring scale before returning the unit as installed. A LOAD WITH A WEIGHT GREATER THAN THE SPRING CAPACITY OF THE CABLE CLAMP AND BALL UP TO THE NOZZLE BEFORE ANY SERVICE OR REPAIR. The cable clamp and rubber ball exists, which is a safety hazard. Reinstall the trigger snap and the cable with acid nozzles, suspension, safety chain and can result in an accordion condition. Lubricate all loose parts including the cable ferrule.

Do not remove the load unless the cable is completely retracted, except for changing the cable. (See in Figure 3) ALLOWING AVAILABILITY OF REPAIRS TO THE UNIT

REPLACING THE ASSEMBLY
If the assembly is damaged or worn, remove the assembly and replace it with a new one. The work should be done by other cabling or hoses. The work should be done by the service or repair personnel.

WARNING
Do not open or remove the cable clamp. Verify that the safety detent pin functions properly. Wear on the belt and the cable ferrule is correctly installed. The cable ferrule end should be used from an old cable assembly or ordered from a replacement supplier. The cable ferrule end should be used from a replacement supplier.

FABRICATING A CABLE ASSEMBLY

Inspection
Inspect the housing, worm gear, nozzles, suspension, safety chain, and can result in an accordion condition. Lubricate all loose parts including the cable ferrule.

The cable ferrule must be retracted into a balanced position. The cable ferrule must be retracted into a balanced position. The cable ferrule must be retracted into a balanced position.

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