

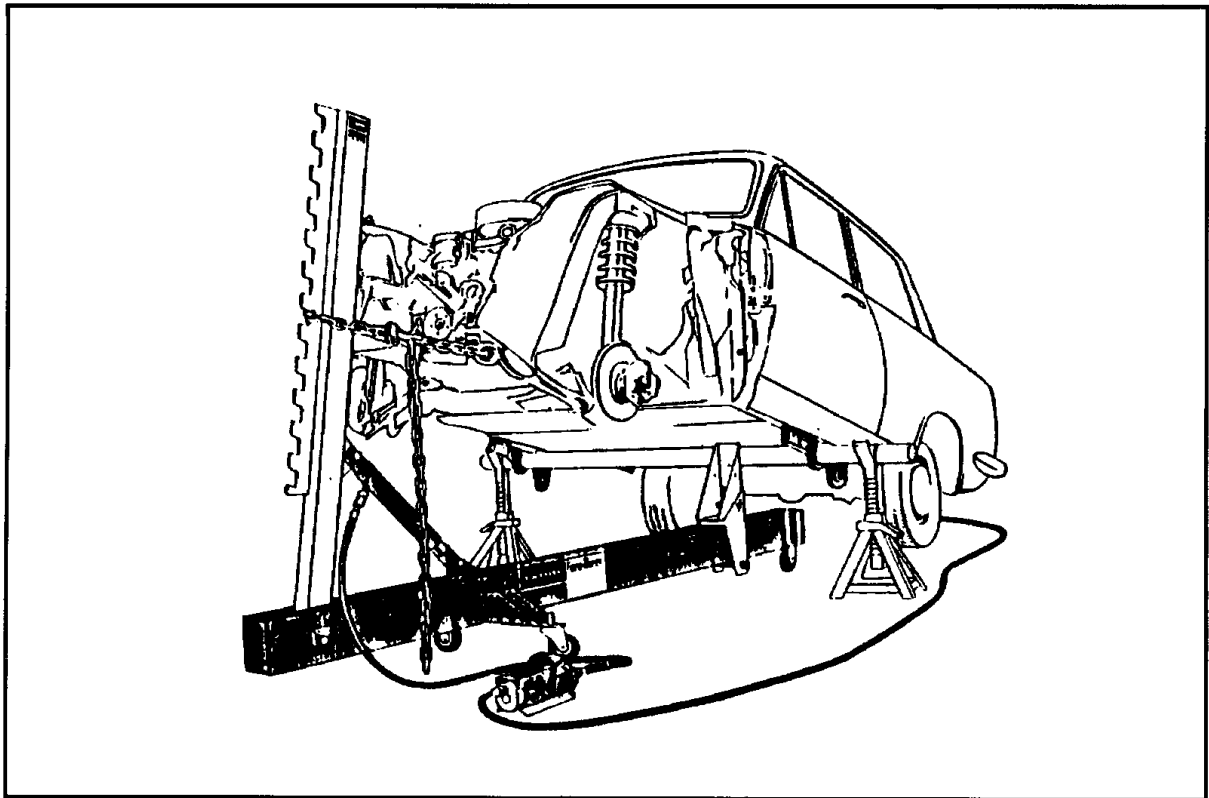
BLACKHAWK®



INSDOZGB

Dozer®

**Models AEK90 / AEK742 / AEK752
and Other DOZER® Packages**



**OPERATING MANUAL
&
REPAIR PARTS SHEETS**



IMPORTANT

Read this manual carefully before using the **BLACKHAWK® DOZER®**.

- Follow strictly all assembly and operating instructions herein.
- For your own safety and of those around you, closely observe all precautions.

INTRODUCTION

This manual contains precautions for use of this equipment, assembly instructions and basic operating instructions. Its purpose is to explain the operation of this equipment to experienced bodymen only.

It is not a body repair instruction; therefore, it does not explain how to carry out a straightening job according to the rule book.

Likewise, it does not take into account all the hypothetical straightening situations and combinations of accessories available.

Take good care of this manual. It will also provide you with important information on original repair parts.

If you use our **DOZER®** with other types of equipment (for example, a measuring system), please refer to the operating instructions provided with each package.

Be sure you fully understand the contents of this manual. For all questions relating to the **BLACKHAWK® DOZER®**, contact **BLACKHAWK®**.

GENERAL DESCRIPTION

Models AEK90, AEK742, AEK752 (and Other DOZER® Packages)

The **BLACKHAWK® DOZER®** is a portable body and frame straightener designed for passenger cars.

The **DOZER®** is particularly useful for carrying out minor collision damage repair.

SPECIFICATIONS

- Vertical arm height: 1.67 m
- Horizontal arm length: 3.00 m
- Hydraulic ram capacity: 10 T
- Hand pump or air-hydraulic, depending on model.
- Accessories depending on model (see repair parts sheets)
- Weight:
 - AEK 90: 200 kg
 - AEK 742: 210 kg
 - AEK 752: 212 kg



IMPORTANT

Body repair systems are designed to deliver great amounts of pull force. Incorrect assembly, implementation or use of unsuitable, damaged or incomplete accessories may result in material damage and/or injury.

Read, study and assimilate all the instructions and warnings provided with this equipment before using.

If the user does not enjoy a good command of English, the purchaser or owner must read and review with him in the latter's mother tongue the instructions and precautions to be taken to ensure that he has clearly understood the contents of this manual.

1. Never authorize unqualified personnel to use this equipment.
2. Before delivering a pull, be sure that the vehicle is firmly and securely anchored.
3. Use clamps and or appropriate accessories according to pulling requirements. Be sure that the clamp jaws are clean and sharp and that they grip well.
4. Only use the **BLACKHAWK®** chains that come with the unit. (See the instructions provided with the chains.)

5. During pulling operations **always** use the safety cable provided.
6. Do not remain in the line of the pull chain or clamp and keep a safe distance from the unit.
7. Do not use **BLACKHAWK®** chains supplied with equipment for lifting and handling operations.
8. The car should not be supported by a jack, but by safety stands and appropriate attachments supplied with this equipment.
9. Use this equipment with the hydraulic unit and **BLACKHAWK®** accessories provided only.
10. Never modify an original accessory or piece of equipment.
11. Use equipment and accessories without exceeding allowed capacities.
12. Do not use this system in conjunction with any equipment likely to modify the overall features.
13. Before initiating a pull, check to see that the equipment and its parts are in good position.

Performing a straightening job on a vehicle implies taking general precautions not directly related to the use of this type of equipment.

Examples

- Wear protective gear (safety shoes, goggles, gloves, etc...)
- Practice fire prevention during welding or grinding operations
- It requires the user to follow these rules at all times; failure to do so may result in material damage and / or injury .
- Be sure that the warning decals are legible and in good condition at all times. Extra decals may be obtained from **BLACKHAWK®**.

ASSEMBLY INSTRUCTIONS

Your **DOZER®** is delivered dismantled. Follow the instructions below for mounting.

1. Fasten the swivel castors (14) to the wheel bracket (13) with the nuts provided (Fig.1)
2. Attach the wheel bracket (13) to the main beam (2) by means of screws (16) and lockwashers (15).
3. Mount the front stationary castor (18) to the main beam (2) with 4 screws M8 x 20 (19), washers (12) and nuts (20).
4. Place the pivot arm (1) in the main beam (2) housing.
5. Align the holes and insert the pivot pin (11); then put the retaining rings in the slots.

MODELS AEK90 / AEK742 / AEK752

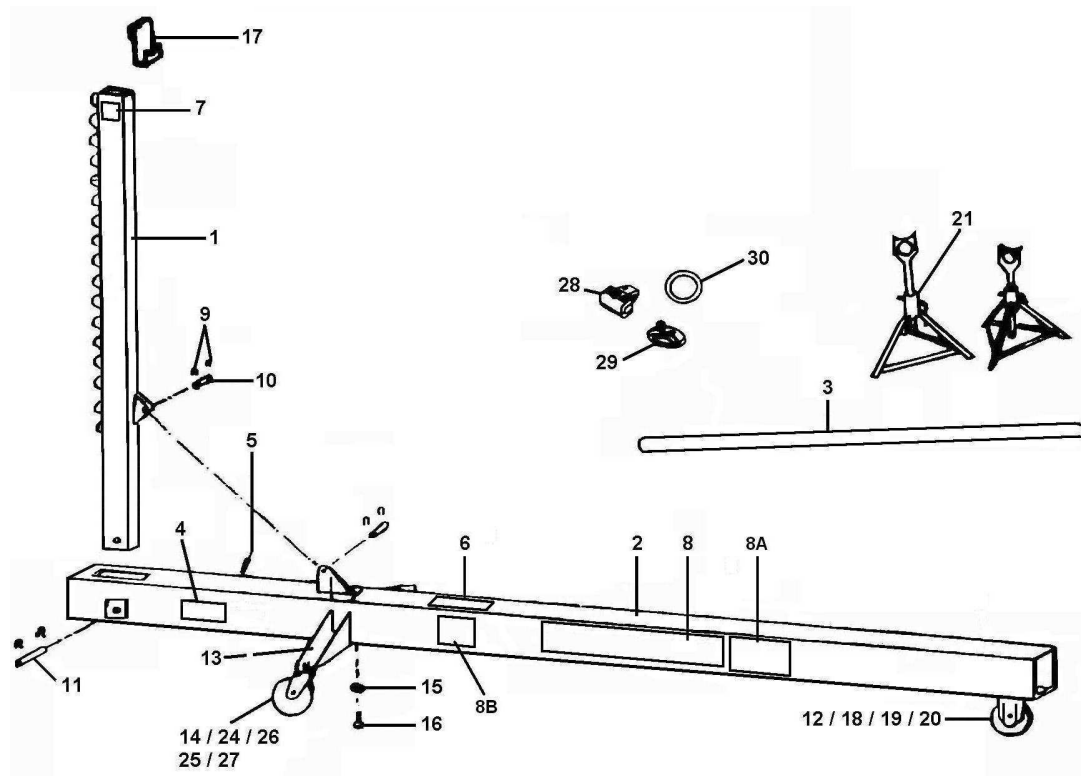


Figure 1 (Example: AEK90)

6. To mount the ram (32), fix it to the brackets of the main beam and of the pivot arm with attachment pins (10) and retaining rings (9). (Fig.2)

NOTE:

The ram must be positioned with the plunger fastened to the horizontal beam, and the ram base (connector pointing downward) to the pivot arm.

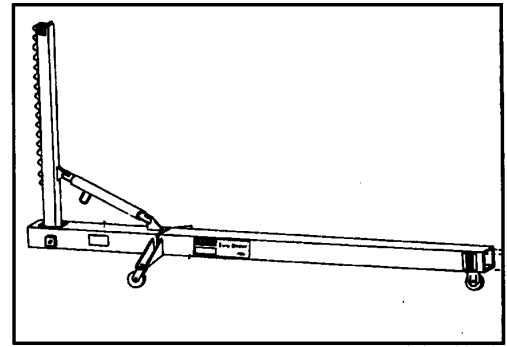


Figure 2

7. Hook up the hand pump (for models **AEK 90** and **AEK 742**) or air-hydraulic pump (for model **AEK 752**) to the ram. Tighten the coupler securely to prevent oil leaks.

8. Mount the pump support (17) to the vertical arm.

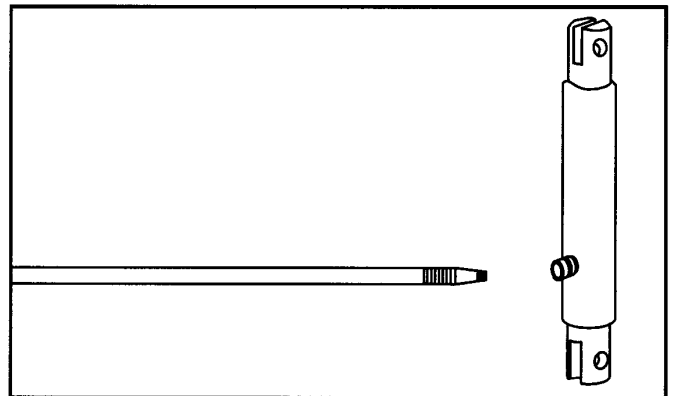


Figure 3

9. (See Fig.2) Put the anchor post (1) in place on the horizontal beam. Insert the retaining pin (2).

IMPORTANT:

Grooving (teeth) must point upwards.

Check to see that all the **DOZER®** components are mounted properly.

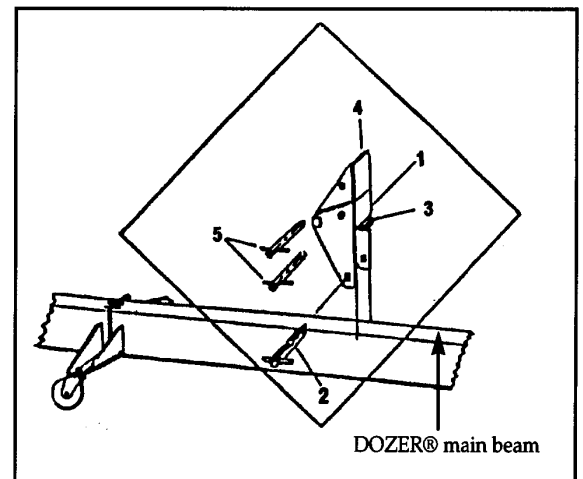


Figure 4

HOW TO USE THE DOZER®

**MODELS. AEK90 / AEK742 / AEK752
(and Other DOZER® Packages)**

PRELIMINARY NOTES

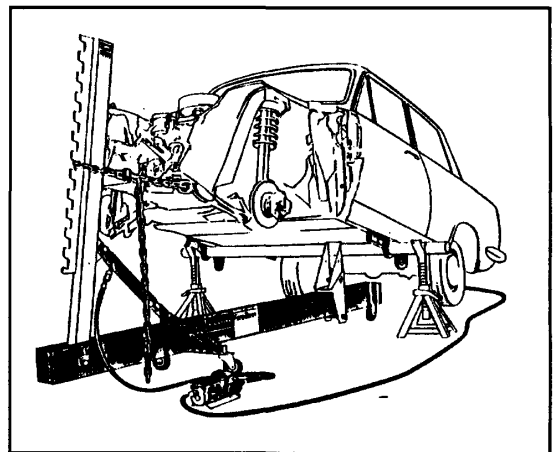
* A straightening job should not be undertaken before a precise evaluation of the damage. **BLACKHAWK®** has developed diagnostic and measuring systems especially for this purpose.

* Straightening is an operation which consists of restoring the initial position of a part (or structure). If this part (or structure) contains control points, their original position must absolutely be restored.

BLACKHAWK® has developed measuring systems which can determine the exact position of a vehicle's control points.

OPERATING PRINCIPLE

The principle is to perform an external pull in the opposite direction of the damage. To do so, a bracing hold with the anchor post is necessary. The pull is delivered by means of a chain, locked in place at an appropriate height on the teeth of the vertical pivot arm and attached to the clamp or accessory mounted beforehand to the part to be straightened. (Fig.5)



(Model with Air hydraulic Pump)

Figure 5

USING THE DOZER®

A pair of underbody clamps is included with the accessories of the **DOZER®** package:

- Clamps **AEK 905A**.

* Insert the cross tube (and reinforcing tube, depending on the model) after fastening these clamps to the pinch welds. (Fig.6).

! IMPORTANT

- Underbody clamp jaws must be clean and sharp to prevent slipping of sheet metal.
- Clamps must be properly tightened.

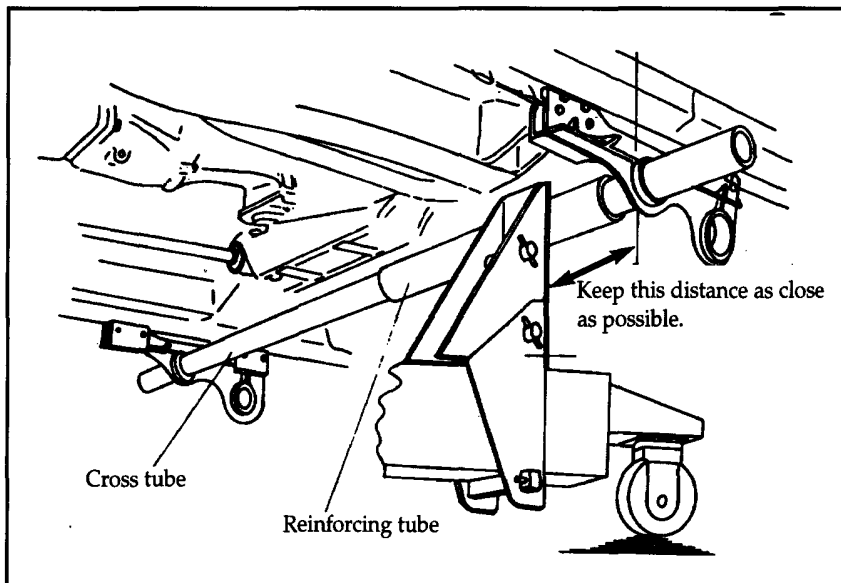


Figure 6

* The **DOZER®** and anchor post will be braced by the cross tube.

The **DOZER®** must be perpendicular to the cross tube.

IF YOU LIFT THE VEHICLE:

* Install the safety stands under the vehicle with the cross tube passing through the safety stand aperture.

IMPORTANT

- Do not use a jack to support the vehicle while working. Always use safety stands set at the same height on each side.
- Be sure that there is no risk of the vehicle tipping over.

* Depending on the tube height, use the anchor post by itself or with its insert positioned properly.
(Fig.7)

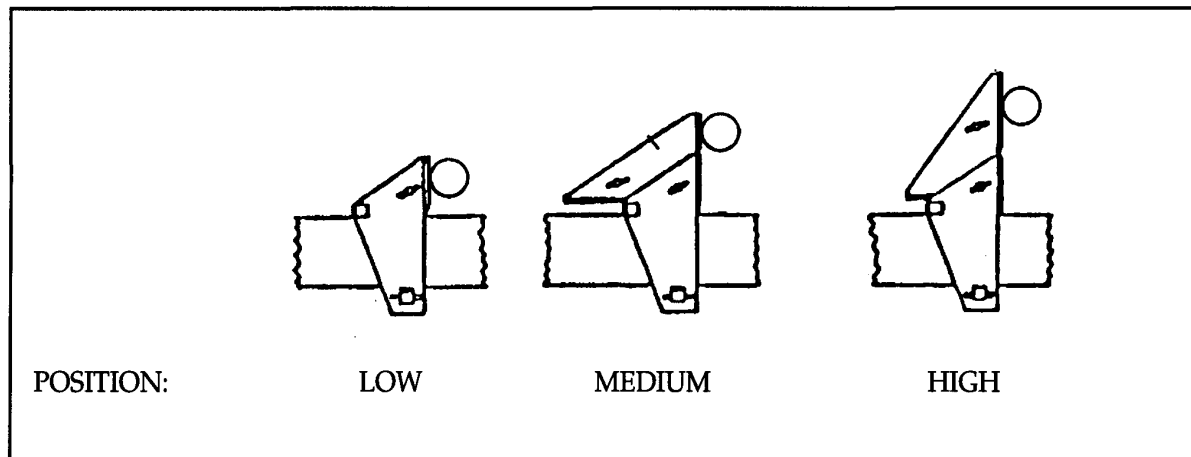


Figure 7

* Install a clamp or appropriate attachment to the part to be straightened.

IMPORTANT

- Pull clamp jaws must be clean and sharp.
- Be sure that the clamp or attachment used is in the right position.

* Install the chain and safety cable provided.

* Proceed with the straightening operation by applying the force gradually.

NOTE:

Do not apply the entire pull at once or in the same place, but spread the pulling points out as evenly as possible. This will prevent tearing of sheet metal and slipping and will facilitate the operation in general.

* Straightening operations may require diagonal or lateral positioning of the DOZER®, depending on the type of body damage. See different examples of application.

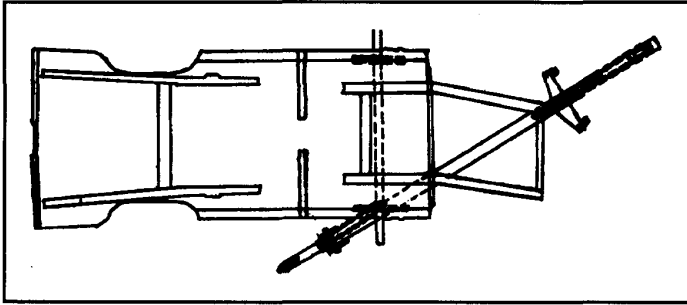


Figure 8

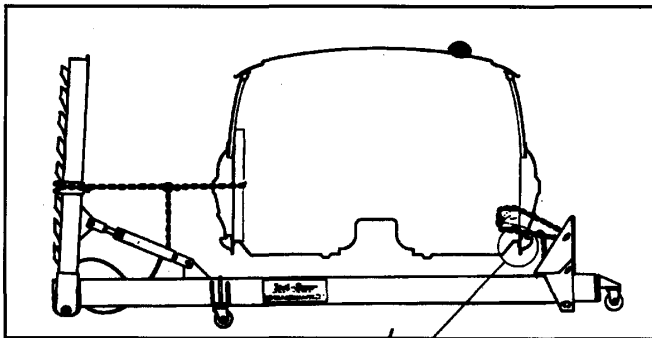


Figure 9

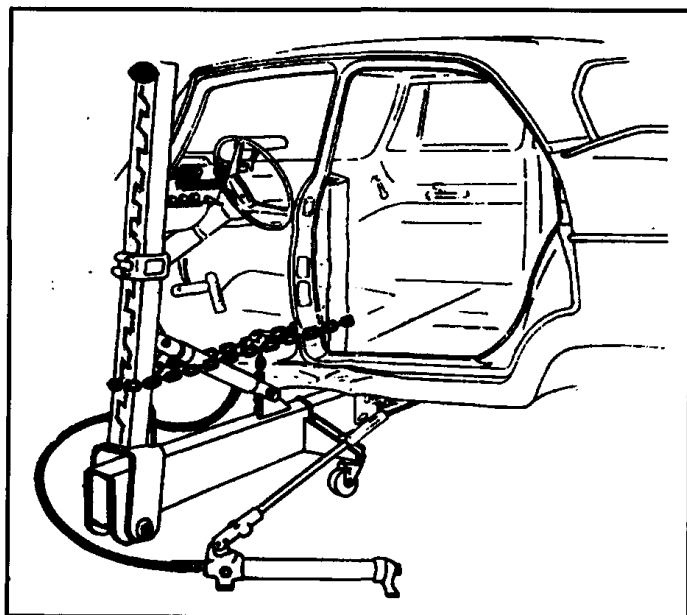


Figure 10

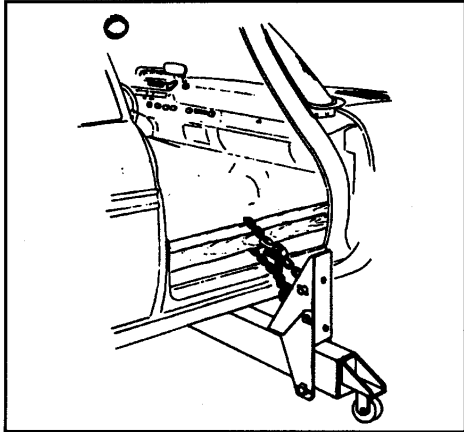


Figure 11

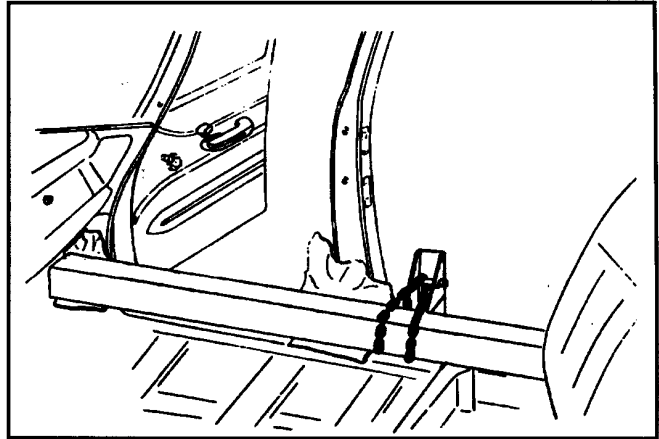


Figure 12



IMPORTANT

- Regardless of the straightening operation performed, always use a safety cable with the chain.
- Never use an extension on the hand pump lever or any other type of lever except the one originally provided with the set.
- If your **DOZER®** is equipped with an air-hydraulic pump (PMP8111), the air pressure should be 5 to 8 bar.
- In all cases, make sure that the vehicle and the **DOZER®** are stable and observe the precautions stated in this manual.

MAINTENANCE

Your **DOZER**® assembly does not require any particular maintenance.

- * Check regularly for any missing castor nuts, pivot pin retaining rings and retaining rings for ram bracket attachment pins.
- * Check your clamps regularly, especially the jaws; if worn, they must be replaced.
- * Check regularly your chains- (see instructions provided with chains), accessories, safety stands, tubes and anchor posts.
- * Check pump hose and connectors. If the hose is cracked, flattened out or in poor condition, it must be replaced.
- * Use **BLACKHAWK**® hydraulic oil only; never use any other types of oil or brake fluid.

See respective instructions for maintenance of hydraulic unit:

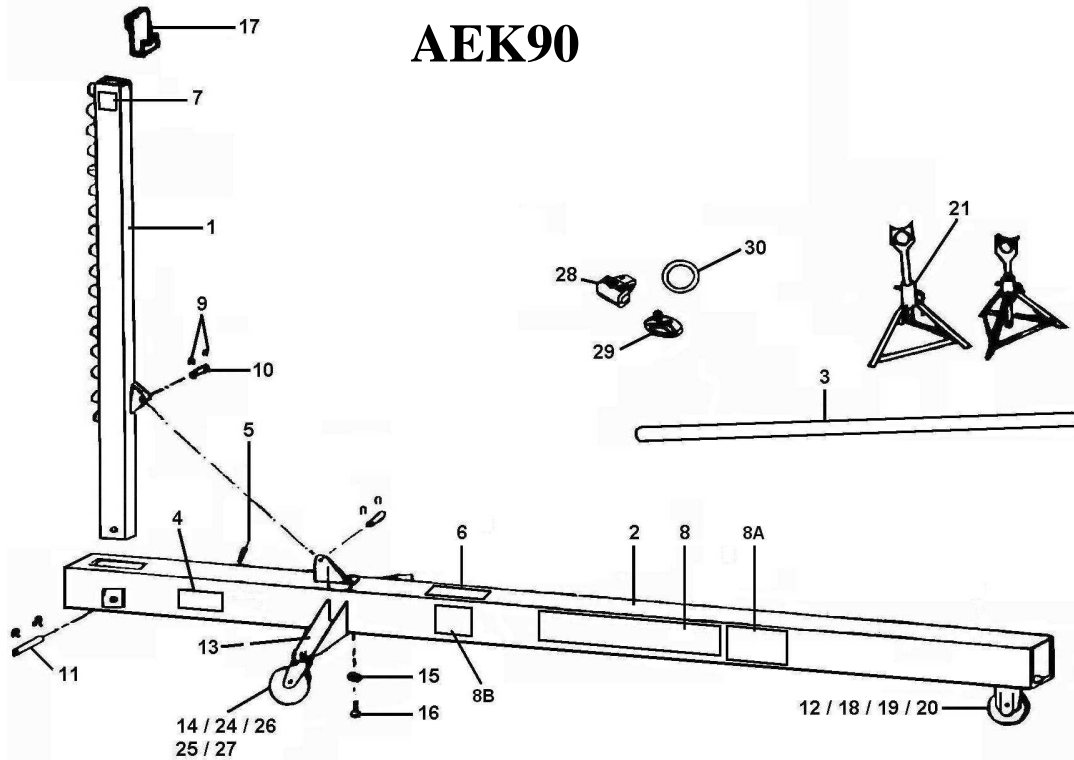
- pump
- ram.



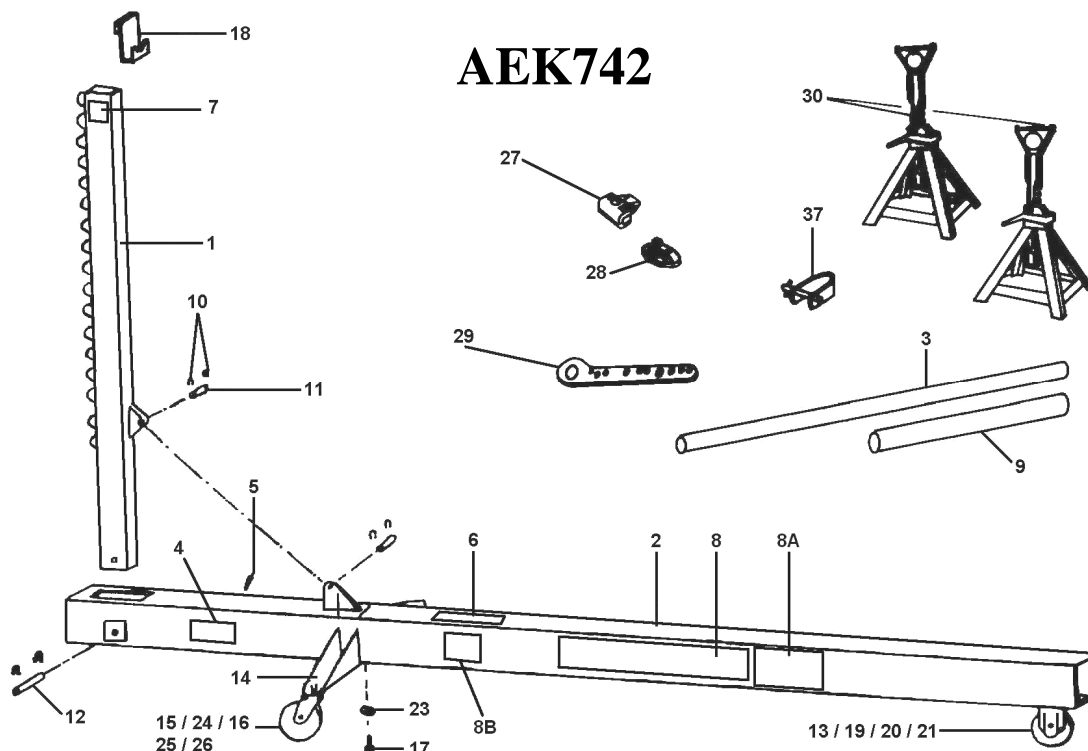
IMPORTANT

The owner and / or user should be aware that repairs of this equipment may require specialized know-how and knowledge. A list of authorized service centres is available from **BLACKHAWK**®.

AEK90

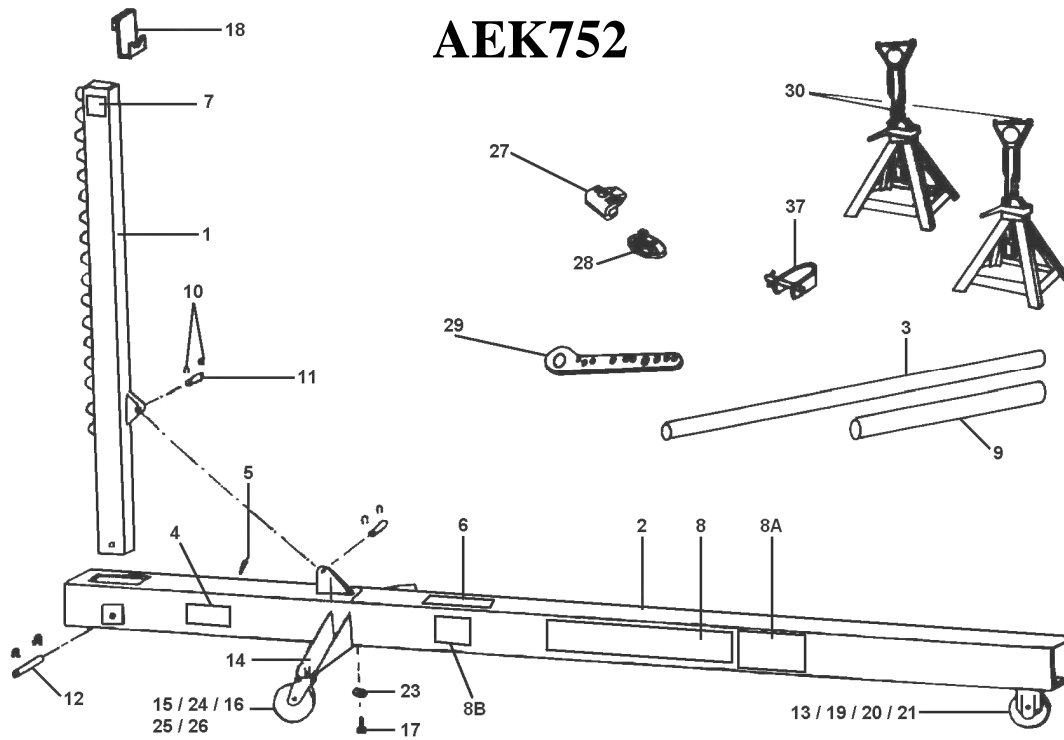


N°	PART NUMBER	DESCRIPTION	Q	N°	PART NUMBER	DESCRIPTION	Q
AEK911 COMPRISES				18	ACP92154A	STATIONARY CASTOR	1
1	ACE3123950B	PIVOT ARM	1	19	MABB821	SCREW M8x20	1
2	ACE3121950B	MAIN BEAM	1	20	MNDB1080	NUT M8	4
3	AEK903	CROSS TUBE	1	21	AEK904	ADJUSTABLE STAND	4
4	S064A234	WARNING DECAL	1	22*	AEK905A	UNDER BODY CLAMP	2
5	ACS507C	SAFETY DECAL	1	23*	AEK902	MULTI POSITION ANCHOR POST	2
6	S064A057	DECAL – SAFETY CABLE	1	24	MAAB1029	BOLT M10x40	1
7	S064A218	BLACKHAWK DECAL	2	25	ACE4240044X	RING SPACER	2
8	S064A186	BLACKHAWK DECAL	2	26	MWAE1100	WASHER M10	2
8A	S064A241	DOZER DECAL	2	27	MNPE1100	NUT HEXAGONAL M10	2
8B	S064A296	S / Nr. PLATE	1	28	AEK232	CLAMP	1
AEK912 COMPRISES				29	AEK233	CLAMP	1
9	MQOC1240	RETAINING RING	6	30	AEK236	PULL RING	1
10	S061L166	ATTACHMENT PIN	2	31*	65126WA	PUMP W'OUT HOSE (BLACK HANDLE)	1
11	ACE2049410A	PIVOT PIN	1	32*	ARC1610	10T RAM	1
12	MWMG1080	WASHER M8	4	33*	AEK328	2.10M CHAIN WITH 2 HOOKS	1
13	ACE2053111B	WHEEL BRACKET	1	34*	AEK327	2.10M CHAIN WITH 1 HOOK	1
14	ACE2052106A	SWIVEL CASTOR	2	35*	AEK99	SAFETY CABLE	1
15	MWAE1120	WASHER M12	1	36*	Z918	HOSE	1
16	MABB1225	SCREW M12x30	1	NOTE: * Not shown			
17	S950A030	SUPPORT	1				



N°	PART NUMBER	DESCRIPTION	Q	N°	PART NUMBER	DESCRIP TION	Q
ACE3126900A COMPRISES				18	S950A030	SUPPORT	1
1	ACE3123950B	PIVOT ARM	1	19	ACP92154A	STATIONARY CASTOR	1
2	ACE3121950B	MAIN BEAM	1	20	MABB821	SCREW M8x20	4
3	AEK903	CROSS TUBE	1	21	MNDB1080	NUT M8	4
4	S064A234	WARNING DECAL	1	22	AEK902	MULTI POSITION ANCHOR POST	1
5	ACS507C	SAFETY DECAL	1	23	MWAE1120	WASHER M12	1
6	S064A057	DECAL - SAFETY CABLE	1	24	MAAB1029	BOLT M10x40	2
7	S064A218	BLACKHAWK DECAL	2	25	ACE4240044X	RING SPACER	2
8	S064A186	BLACKHAWK DECAL	2	26	MNPE1100	NUT M10	2
8A	S064A241	DOZER DECAL	2	27	AEK232	CLAMP	1
8B	S064A296	S / Nr. PLATE	1	28	AEK233	CLAMP	1
9	AEK1290	REINFORCING TUBE	1	29	AEK301	PULL PLATE	1
ACE3139900A COMPRISES				30	AEK3060	ADJUSTABLE STAND (Pair)	1
10	MQOC1240	RETAINING RING	6	31*	PMP7610	PUMP	1
11	S061L166	ATTACHMENT PIN	2	32*	ARC1610	10T RAM	1
12	ACE2049410A	PIVOT PIN	1	33*	AEK905A	UNDER BODY CLAMP	1
13	MWMG1080	WASHER M8	4	34*	AEK328	2.10M CHAIN WITH 2 HOOKS	1
14	ACE2053111B	WHEEL BRACKET	1	35*	AEK327	2.10M CHAIN WITH 1 HOOK	1
15	ACE2052106A	SWIVEL CASTOR	2	36*	AEK99	SAFETY CABLE	1
16	MWQG1100	WASHER M10	2	37	AEK105S	YOKE	1
17	MABB1225	SCREW M12x30	1	NOTE: * Not shown			

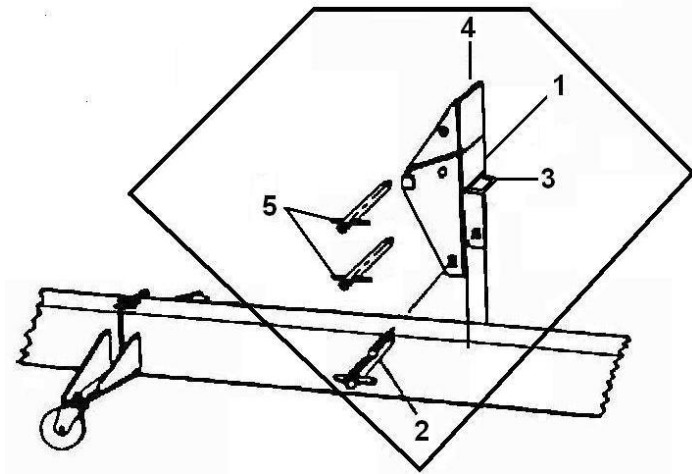
AEK752



N°	PART NUMBER	DESCRIPTION	Q	N°	PART NUMBER	DESCRIP TION	Q
ACE3126900A COMPRISES				18	S950A030	SUPPORT	1
1	ACE3123950B	PIVOT ARM	1	19	ACP92154A	STATIONARY CASTOR	1
2	ACE3121950B	MAIN BEAM	1	20	MABB821	SCREW M8x20	4
3	AEK903	CROSS TUBE	1	21	MNDB1080	NUT M8	4
4	S064A234	WARNING DECAL	1	22	AEK902	MULTI POSITION ANCHOR POST	1
5	ACS507C	SAFETY DECAL	1	23	MWAE1120	WASHER M12	1
6	S064A057	DECAL – SAFETY CABLE	1	24	MAAB1029	BOLT M10x40	2
7	S064A218	BLACKHAWK DECAL	2	25	ACE4240044X	RING SPACER	2
8	S064A186	BLACKHAWK DECAL	2	26	MNPE1100	NUT HEXAGONAL M10	2
8A	S064A241	DOZER DECAL	2	27	AEK232	CLAMP	1
8B	S064A296	S / Nr. PLATE	1	28	AEK233	CLAMP	1
9	AEK1290	REINFORCING TUBE	1	29	AEK301	PULL PLATE	1
ACE3139900A COMPRISES				30	AEK3060	ADJUSTABLE STAND (Pair)	1
10	MQOC1240	RETAINING RING	6	31*	P790H	PUMP	1
11	S061L166	ATTACHMENT PIN	2	32*	ARC1610	10T RAM	1
12	ACE2049410A	PIVOT PIN	1	33*	AEK905A	UNDER BODY CLAMP	1
13	MWMG1080	WASHER M8	4	34*	AEK328	2.10M CHAIN WITH 2 HOOKS	1
14	ACE2053111B	WHEEL BRACKET	1	35*	AEK327	2.10M CHAIN WITH 1 HOOK	1
15	ACE2052106A	SWIVEL CASTOR	2	36*	AEK99	SAFETY CABLE	1
16	MWQG1100	WASHER M10	2	37	AEK105S	YOKE	1
17	MABB1225	SCREW M12x30	1	NOTE: * Not shown			

AEK902

Multi position anchor post



N°	PART NUMBER	DESCRIPTION	Q
1	ACE4309950B	MULTI POSITION ANCHOR POST	1
2	ACE4315900A	SLIP PIN	1
3	ACE4314110A	SPRING	1
4	D858151	ANCHOR POST INSERT	1
5	ACE2045900A	LOCK PIN	2

BLACKHAWK



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