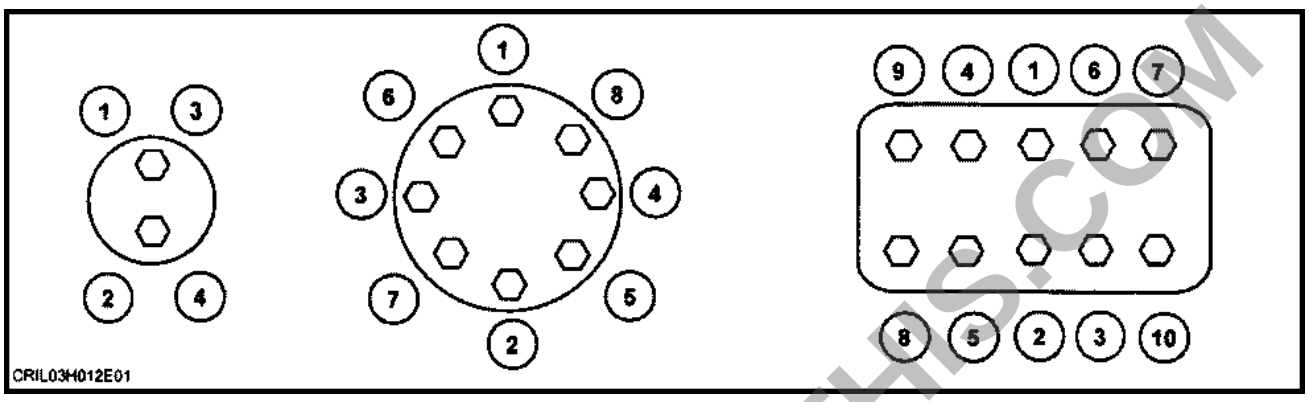
Torque

Minimum hardware tightening torques Nm lb ft lb in for normal assembly applications unless otherwise stated

NOTICE: *Shown below is the suggested initial torque tightening sequences for general applications, tighten in sequence from item 1 through to the last item of the hardware.*



df5019-1 1

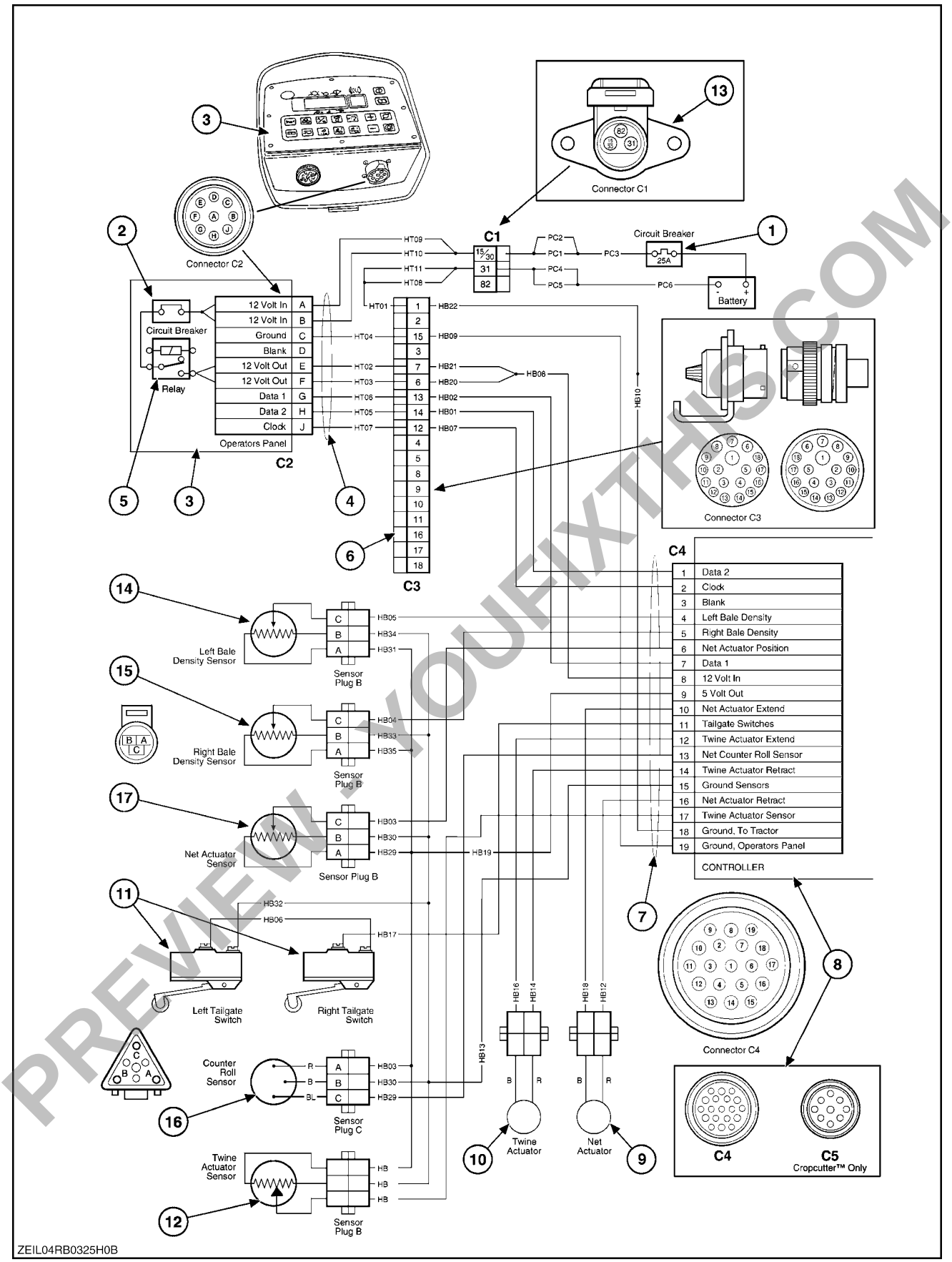
Imperial hardware

Nominal Size	SAE GRADE 2 Unplated or Silver plated	SAE GRADE 2 plated w/ZnCr GOLD	SAE GRADE 5 Unplated or Silver plated	SAE GRADE 5 plated w/ZnCr GOLD	SAE GRADE 8Unplated or Silver plated	SAE GRADE 8 plated w/ZnCr GOLD	LOCK-NUTS GR.B w/GR5 BOLT	LOCK-NUTS GR.B w/GR8 BOLT
1/4	6.2 Nm 55 lb in	8.1 Nm 72 lb in	9.7 Nm 86 lb in	13 Nm 112 lb in	14 Nm 121 lb in	18 Nm 157 lb in	6.9 Nm 61 lb in	9.8 Nm 86 lb in
5/16	13 Nm 115 lb in	17 Nm 149 lb in	20 Nm 178 lb in	26 Nm 229 lb in	28 Nm 250 lb in	37 Nm 324 lb in	14 Nm 125 lb in	20 Nm 176 lb in
3/8	23 Nm 17 lb ft	30 Nm 22 lb ft	35 Nm 26 lb ft	46 Nm 34 lb ft	50 Nm 37 lb ft	65 Nm 48 lb ft	26 Nm 19 lb ft	35 Nm 26 lb ft
7/16	37 Nm 27 lb ft	47 Nm 35 lb ft	57 Nm 42 lb ft	73 Nm 54 lb ft	80 Nm 59 lb ft	104 Nm 77 lb ft	41 Nm 30 lb ft	57 Nm 42 lb ft
1/2	27 Nm 42 lb ft	73 Nm 54 lb ft	87 Nm 64 lb ft	113 Nm 83 lb ft	123 Nm 91 lb ft	159 Nm 117 lb ft	61 Nm 45 lb ft	88 Nm 64 lb ft
9/16	81 Nm 60 lb ft	104 Nm 77 lb ft	125 Nm 92 lb ft	163 Nm 120 lb ft	176 Nm 130 lb ft	229 Nm 169 lb ft	88 Nm 65 lb ft	125 Nm 92 lb ft
5/8	112 Nm 83 lb ft	145 Nm 107 lb ft	174 Nm 128 lb ft	224 Nm 165 lb ft	244 Nm 180 lb ft	316 Nm 233 lb ft	122 Nm 90 lb ft	172 Nm 127 lb ft
3/4	198 Nm 146 lb ft	256 Nm 189 lb ft	306 Nm 226 lb ft	397 Nm 293 lb ft	432 Nm 319 lb ft	560 Nm 413 lb ft	217 Nm 160 lb ft	305 Nm 226 lb ft
7/8	193 Nm 142 lb ft	248 Nm 183 lb ft	495 Nm 365 lb ft	641 Nm 473 lb ft	698 Nm 515 lb ft	904 Nm 667 lb ft	350 Nm 258 lb ft	494 Nm 364 lb ft
1.0	289 Nm 213 lb ft	373 Nm 275 lb ft	742 Nm 547 lb ft	960 Nm 708 lb ft	1048 Nm 773 lb ft	1356 Nm 1000 lb ft	523 Nm 386 lb ft	739 Nm 545 lb ft

Metric hardware

Nominal Size	CLASS 5.8 UNPLATED	CLASS 5.8 UNPLATED	CLASS 8.8 UNPLATED	CLASS 8.8 UNPLATED	CLASS 10.9 UNPLATED	CLASS 10.9 UNPLATED	LOCKNUT CL.8 w/CL8.8 BOLT
M4	1.7 Nm 15 lb in	2.2 Nm 19 lb in	2.6 Nm 23 lb in	3.4 Nm 30 lb in	3.7 Nm 33 lb in	4.8 Nm 42 lb in	1.8 Nm 16 lb in
M6	5.8 Nm 51 lb in	7.6 Nm 67 lb in	8.9 Nm 79 lb in	12 Nm 102 lb in	13 Nm 115 lb in	17 Nm 150 lb in	6.3 Nm 56 lb in
M8	14 Nm 124 lb in	18 Nm 159 lb in	22 Nm 195 lb in	28 Nm 248 lb in	31 Nm 274 lb in	40 Nm 354 lb in	15 Nm 133 lb in

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SYSTEM COMPONENTS	CUTTER CONTROL CONNECTOR PINS
Item and function	**Pin and Function**
1. Actuator position sensor	A. Actuator position sensor

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ELECTRONIC SYSTEM - Fault code index

CHOPPING Crop cutter - Not calibrated (K.30.E)
CHOPPING Crop cutter - Not calibrated (K.30.E)
Density device - Not calibrated (K.50.D)
Monitor Input function - Not function (A.50.A)
Monitor Input function - Not function (A.50.A)
Monitor Input function - Not function (A.50.A)
Monitor Input function - Not function (A.50.A)
Monitor Input function - Not function (A.50.A)
Monitor Input function - Not function (A.50.A)
Monitor Input function - Not function (A.50.A)
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Monitor Input function - Not function (A.50.A)
Monitor Input function - Not function (A.50.A)
Monitor Input function - Not function (A.50.A)
Monitor Input function - Not function (A.50.A)
Monitor Input function - Not function (A.50.A)
Density device - Not calibrated (K.50.D)
Density device - Not calibrated (K.50.D)
.
Twine arm actuator - Not calibrated (K.55.D)
Twine arm actuator - Not calibrated (K.55.D)
.

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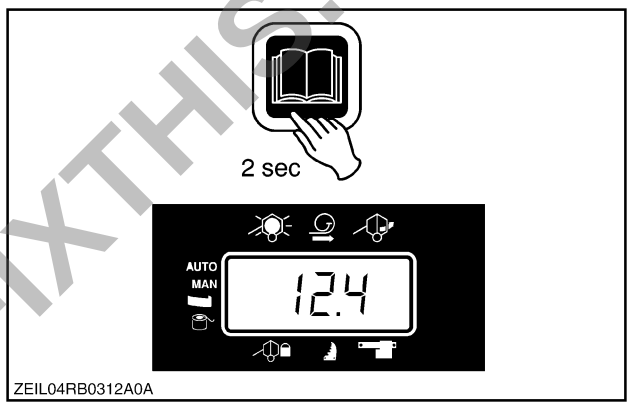
Battery - Check

ATTENTION: *Supply voltage check (Page 21 of the set up / diagnostic mode)*

1. **(Page 21)** is used to display the battery supply voltage. With this test it is possible to view the power supply to the monitor system and observe any voltage drop during actuator extend/retract. The voltage shown on the display is not a true battery voltage, but the supply voltage measured at the controller. For example, a low voltage displayed does not automatically mean battery power is low as it might be possible there is loss of electric power in the wiring loom and/or connectors between battery, operator panel and controller.

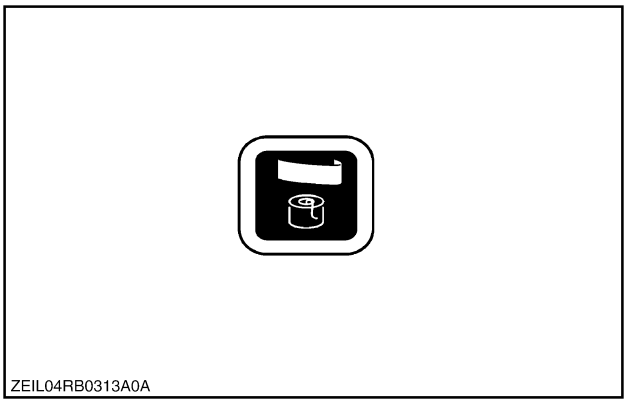
ATTENTION: *Perform a supply voltage check*

2. Enter the setup/diagnostic mode. Successively press the OPEN BOOK key to go to Page 21 (page number 21 not displayed). The voltage shown on the display is the battery supply voltage measured at the controller i.e. **12.4 volts**.



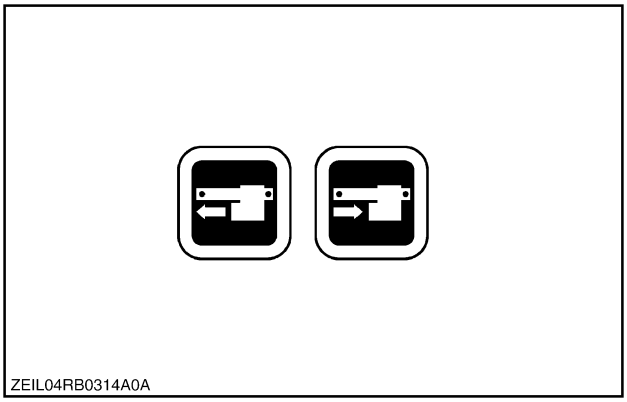
ZEIL04RB0312A0A 1

3. To activate the TWINE WRAP actuator, press the NET/TWINE key and the twine pointer will turn on.



ZEIL04RB0313A0A 2

4. Use the EXTEND or RETRACT key to move the twine actuator and monitor the voltage drop on the display. After the test, make sure to retract the actuator to the home position.

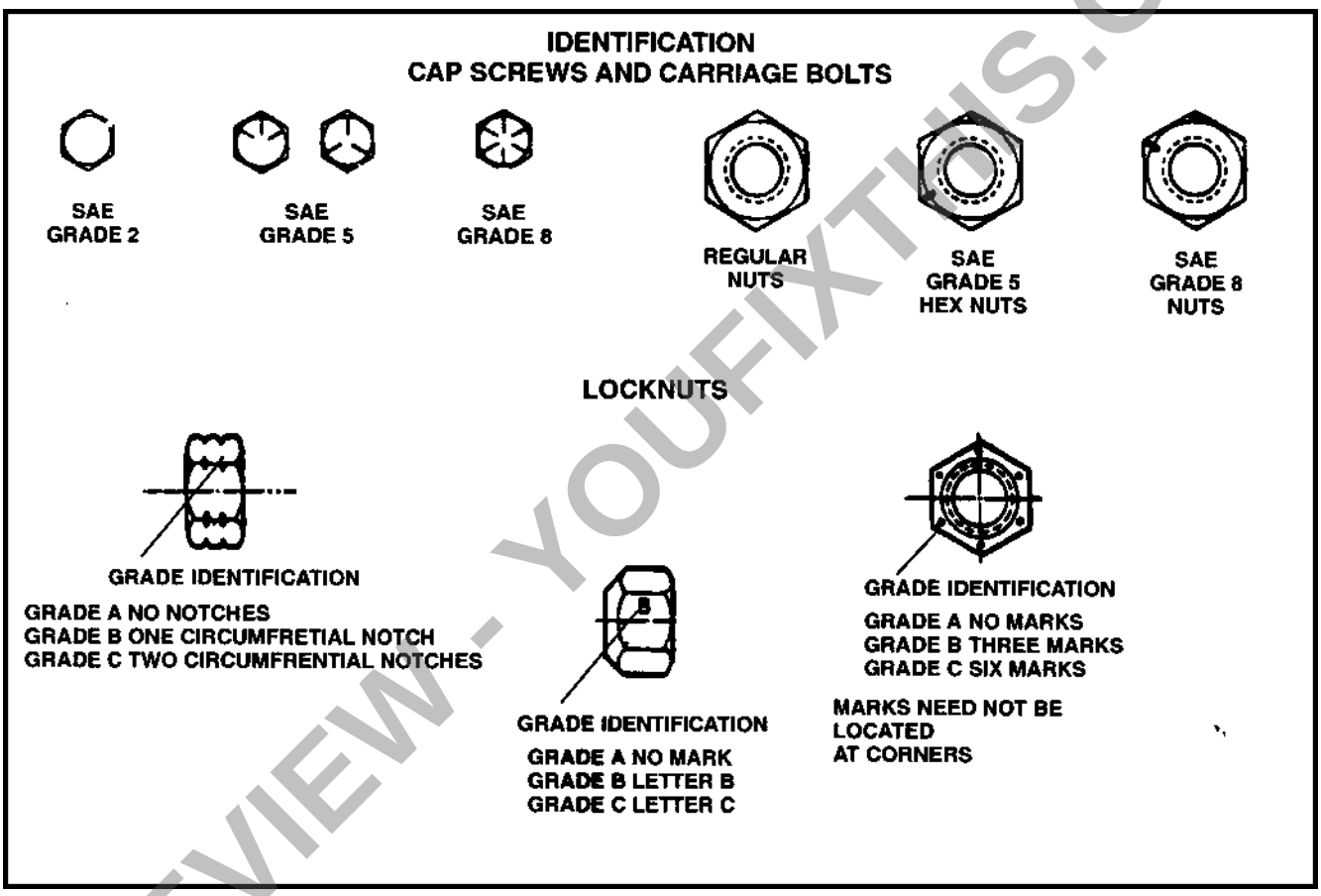


ZEIL04RB0314A0A 3

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Nominal Size	CLASS 5.8 UNPLATED	CLASS 5.8 UNPLATED	CLASS 8.8 UNPLATED	CLASS 8.8 UNPLATED	CLASS 10.9 UNPLATED	CLASS 10.9 UNPLATED	LOCKNUT CL.8 w/CL8.8 BOLT
M10	28 Nm 21 lb ft	36 Nm 27 lb ft	43 Nm 32 lb ft	56 Nm 41 lb ft	61 Nm 45 lb ft	79 Nm 58 lb ft	30 Nm 22 lb ft
M12	49 Nm 36 lb ft	63 Nm 46 lb ft	75 Nm 55 lb ft	97 Nm 72 lb ft	107 Nm 79 lb ft	138 Nm 102 lb ft	53 Nm 39 lb ft
M16	121 Nm 89 lb ft	158 Nm 117 lb ft	186 Nm 137 lb ft	240 Nm 177 lb ft	266 Nm 196 lb ft	344 Nm 254 lb ft	131 Nm 97 lb ft
M20	237 Nm 175 lb ft	307 Nm 107 lb ft	375 Nm 277 lb ft	485 Nm 358 lb ft	519 Nm 383 lb ft	671 Nm 495 lb ft	265 Nm 195 lb ft
M24	411 Nm 303 lb ft	531 Nm 392 lb ft	648 Nm 478 lb ft	839 Nm 619 lb ft	897 Nm 662 lb ft	1160 Nm 855 lb ft	458 Nm 338 lb ft



5057 2

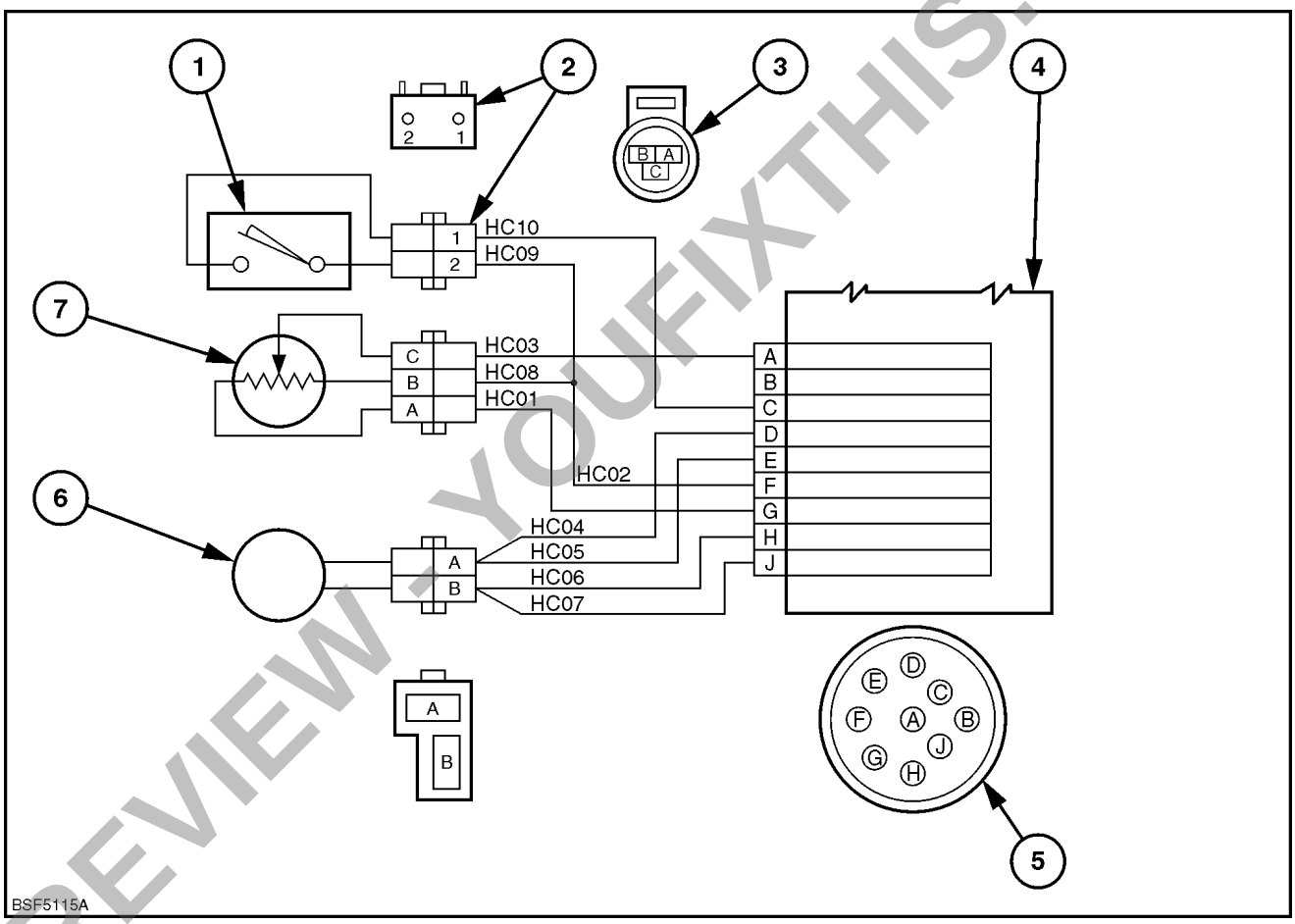
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SYSTEM COMPONENTS	CUTTER CONTROL CONNECTOR PINS
Item and function	**Pin and Function**
2. Sensor plug	B. Blank
3. Cutter connector to control box (C5)	C. Knife position switch
4. Connector C5	D. Actuator extend
5. Knife actuator	E. Actuator extend
6. Knife position switch	F. Sensor ground
7. Knife position switch plug	G. 5V out
	H. Actuator retract
	J. Actuator retract

WIRE COLOUR CODE	R = red B = Black

NOTE: *The following diagram shows the additional components used with the optional cutter system.*



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ELECTRONIC SYSTEM - Fault code index

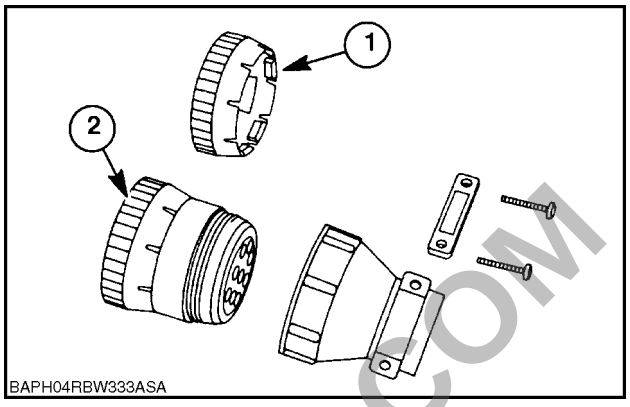
Reference	Description	Controller
14 ER	Crop cutter not calibrated	
14 Er	Callibration error cutter full extend position	

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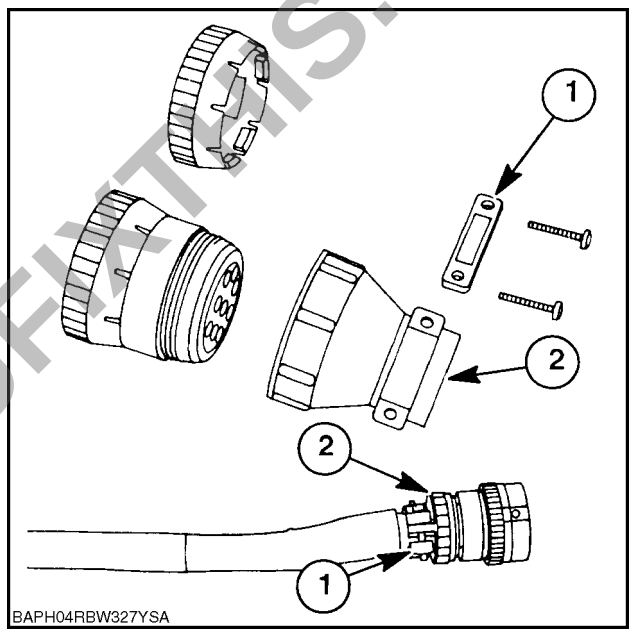
Connector - Overhaul

1. Deutsch-type wire harness connectors are used in the monitor system to connect the harnesses to the controller, junction box and operator panel. The connectors can be repaired using tools
   Extraction tools
   Crimping pliers
   Electrician's pliers
   Installing a new ring on a plastic connector body
   If the ring **(1)** on a plastic connector body is broken, it can be replaced with a new one without removing the connector from the harness. Remove all parts of the broken ring. Align the new ring with the end of the body **(2)** and carefully push it over the rib on the body.



BAPH04RBW333ASA 1

2. Replacing a connector body
   The same procedure is used for both the plastic connector as shown at the top of and for the metal connector as shown at the bottom.
   1. Remove the cable clamp **(1)** from the connector.
   2. Unscrew the clamp end cap **(2)**.



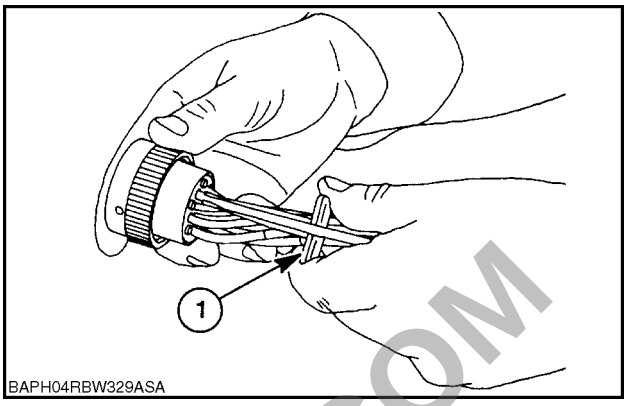
BAPH04RBW327YSA 2

3. Slide the rubber boot's **(1)** over the harness as far as possible to expose the wires.
   4. Remove the wires from the connector as described below.
   5. Install the wire terminals in the new connector as described on the next page. NOTE: Refer to the Bale Command Plus™ monitor wiring diagram to determine the correct hole location for each wire. Install a plug in any unused holes in the connector.
   6. Reinstall the rubber boot's **(1)** followed by clamp end cap **(2)** and cable clamp **(1)**.

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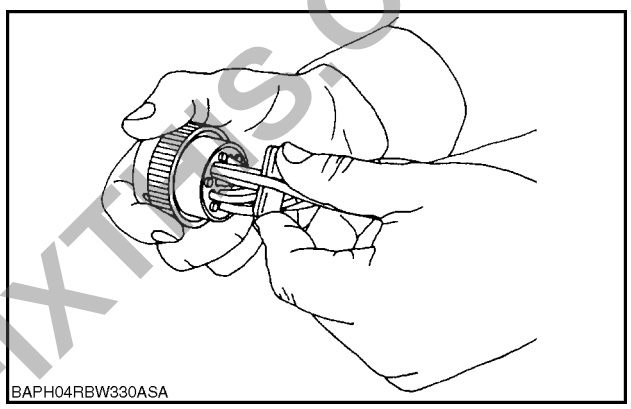
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4. Removing a wire from a connector
   1. Position the correct size extraction tool **(1)** on the wire to be removed from the connector as shown.



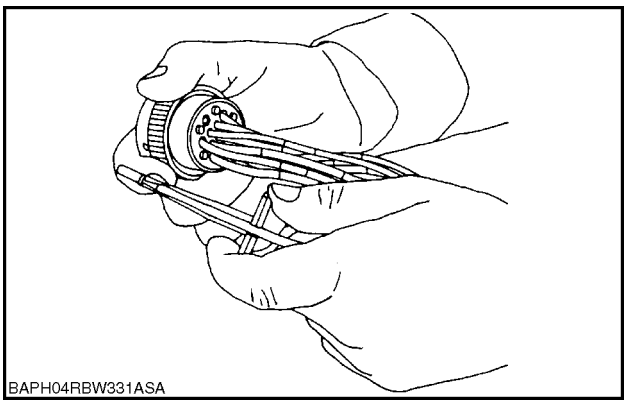
BAPH04RBW329ASA 3

5. Slide the tool along the wire and into the connector as shown until the tool unlocks the terminal from the connector body. This can usually be detected by listening for a click' as the terminal is released.



BAPH04RBW330ASA 4

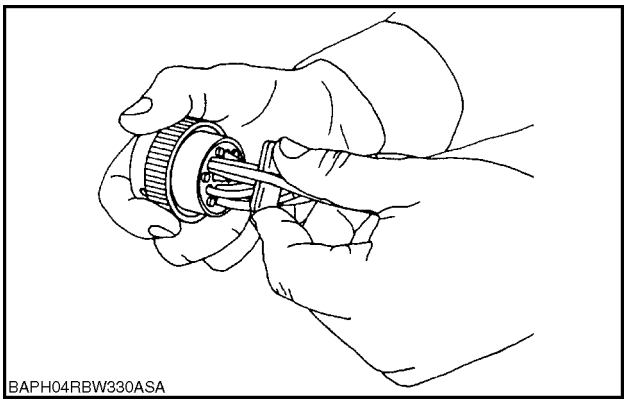
6. Pull the wire, tool, and terminal from the connector as shown.



BAPH04RBW331ASA 5

7. Installing a terminal in a connector
   To install a terminal in a connector, simply push the terminal and wire into the appropriate hole in the connector until it clicks into place.

   NOTE: It is usually easier to use the extraction tool to reinstall the terminal. This can be done by placing the tool on the wire and part of the terminal as shown and then pushing the tool and wire into the connector as shown, until the clamp release is detected. Remove the tool and check to be sure the terminal is locked in the connector.



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Safety rules

IMPORTANT INFORMATION

- All repair and maintenance works listed in this manual must be carried out only by staff belonging to the Manufacturers Service network, strictly complying with the instructions given and using, whenever required, the special tools.
  Anyone who carries out the above operations without complying with the prescriptions shall be responsible for the subsequent damages.
- The manufacturer and all the organizations of its distribution chain, including - without limitation - national, regional or local dealers, reject any responsibility for damages due to the anomalous behaviour of parts and/or components not approved by the manufacturer himself, including those used for the servicing or repair of the product manufactures or marketed by the Manufacturer.
- In any case, no warranty is given or attributed on the product manufactures of marketed by the Manufacturer in case of damages due to an anomalous behaviour of parts and/or components not approved by the Manufacturer. No reproduction, though partial of text and illustrations allowed

SAFETY INFORMATION
WARNING AND DANGER SYMBOLS

- Warning symbols point out important personal safety messages. Carefully read the following safety regulations and observe advised precautions in order to avoid potential hazards and safeguard your health and safety. In this manual the symbol is accompanied by the following key words:
- DANGER", CAUTION", WARNING". Warnings concerning unsuitable repair operations that may jeopardize the safety of Repair personnel.
  DANGER - Specific warnings concerning potential hazards for operator safety or for other persons directly or indirectly involved.

ACCIDENT PREVENTION

- Most accidents or injuries that occur in workshops are the result of non observance of simple and fundamental safety regulations.
  For this reason, IN MOST CASES THESE ACCIDENTS CAN BE AVOIDED by foreseeing possible causes and consequently acting with the necessary caution and care. Accidents may occur with all types of machine, regardless of how well the machine in question was designed and built. A careful and judicious service technician is the best guarantee against accidents. Precise observance of the most basic safety rule is normally sufficient to avoid many serious accident.

DANGER

- Never carry out any cleaning, lubrication or maintenance operations when the tractor engine is running.

SAFETY RULES AND REGULATIONS

- Carefully follow specified repair and maintenance procedures.
- Do not wear rings, wrist watches, jewelry, unbuttoned or loose articles of clothing such as: ties, torn clothing, scarves, open jackets or shirts with open zips that may remain entangled in moving parts. It is advised to wear approved safety clothing, e.g.: non slip footwear, gloves, safety goggles, helmets, etc.
- Do not carry out repair operations with someone sitting in the driver’s seat, unless the person is a trained technician who is assisting with the operation in question.
- Do not operate the machine or use any of the implements from different positions, other than the driver’s seat.
- Do not carry out operations on the machine with the tractor engine running, unless specifically indicated.
- Stop the tractor engine and check that the hydraulic circuits are pressure-free before removing caps, covers, valves, etc.
- All repair and maintenance operations must be carried out using extreme care and attention.
- Service steps and platforms used in the workshop or elsewhere should be built according to standard accident prevention regulations.
- Disconnect the p.t.o. from the tractor and label all controls to indicate that the machine is being serviced. Any parts that are to be raises must be locked in position.

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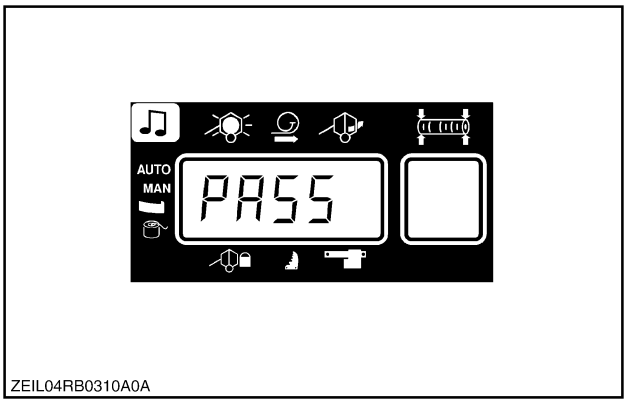
INTRODUCTION

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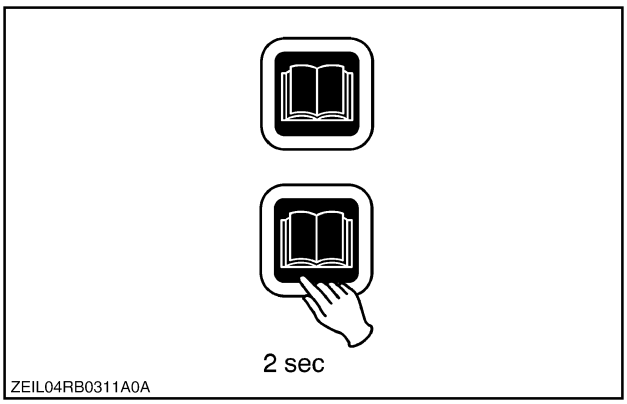
6. The second part of the test is the operator panel keypad test. Pressing a key will cause a number associated with the key to be displayed for 1 second. Key function and number association is as follows:
1. Pressing the CLEAR key will cause a number 1 to be displayed.
2. Pressing the EXTEND key will cause a number 2 to be displayed.
3. Pressing the BALES key will cause a number 3 to be displayed 4. Pressing the RETRACT key will cause a number 4 to be displayed.
5. Pressing the AUTO/MAN key will cause a number 5 to be displayed
6. Pressing the cutter ON/OFF key will cause a number 6 to be displayed.
7. Pressing the NET/TWINE key will cause a number 7 to be displayed.
8. Pressing the CUTTER EXTEND key will cause a number 8 to be displayed.
9. Pressing the WRAP key will cause a number 9 to be displayed. 10. Pressing the CUTTER RETRACT key will cause a number 10 to be displayed.
11. Pressing the plus key will cause a number 11 to be displayed.
12. Pressing the minus key will cause a number 12 to be displayed.
13. Pressing the OPEN BOOK key will cause a number 13 to be displayed.
14. Pressing the BALE DENSITY key will cause a number 14 to be displayed.
15. Pressing the WRAPS key will cause a number 15 to be displayed.

7. After all the keys are pressed, the number for the last key pressed will not be displayed but the word PASS will appear on the display for 1 second indicating the keypad is functional.



ZEIL04RB0310A0A 5

8. Pressing the OPEN BOOK key again will switch the display to page 20. To exit the setup/diagnostic mode, press and hold the OPEN BOOK key for 2 seconds and the system will return to the normal operating mode.



ZEIL04RB0311A0A 6

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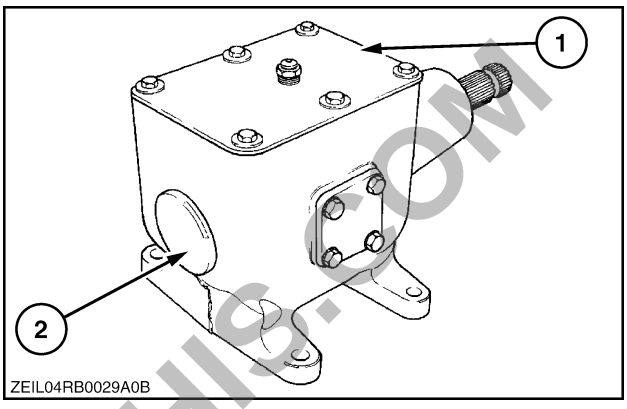
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Gearbox - Disassemble

Prior operation:
Gearbox - Remove (C.50.B)

ATTENTION: *APPLIES TO N/AMERICAN GEARBOX ONLY*

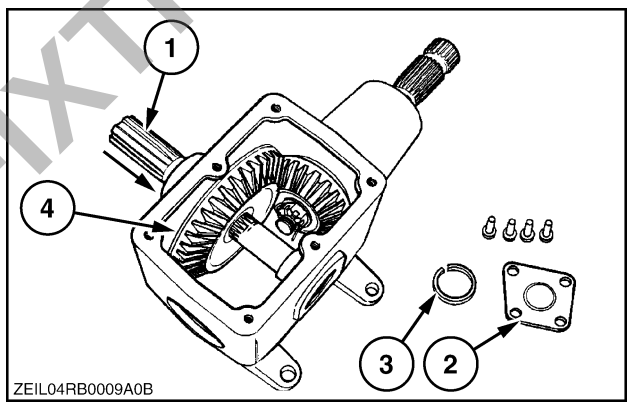
1. With the gearbox removed from the machine drain the oil. Remove cover **(1)** and cap **(2)**.



ZEIL04RB0029A0B 1

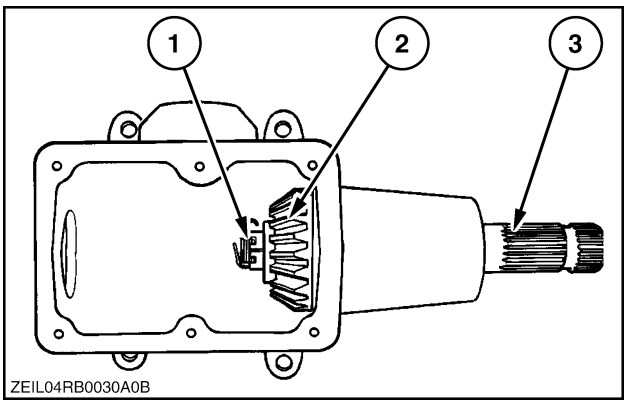
2. Remove bearing end cap **(2)**. Remove and discard thrust washer **(3)**. Press the output shaft **(1)** in the direction shown to remove the shaft and the bearing from the gearbox. Bevel gear **(4)** can now be removed from the gearbox.

NOTE: *Support the gearbox and bevel gear (4) properly to avoid damage while pressing the shaft out*



ZEIL04RB0009A0B 2

3. Remove cotter pin, nut and washer at **(1)**. Remove pinion gear **(2)** and press input shaft **(3)** with bearings out of the front of the gearbox.



ZEIL04RB0030A0B 3

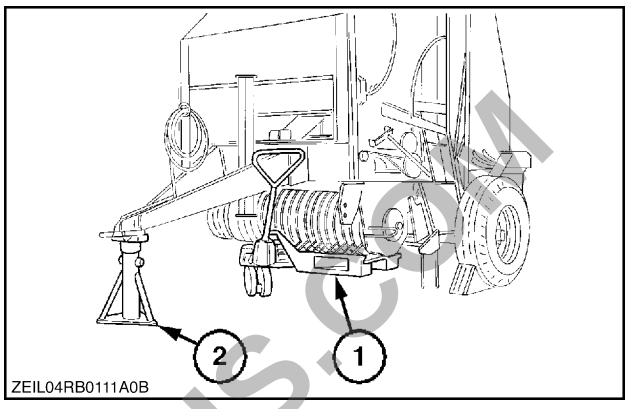
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PICKING Picking up - Assemble

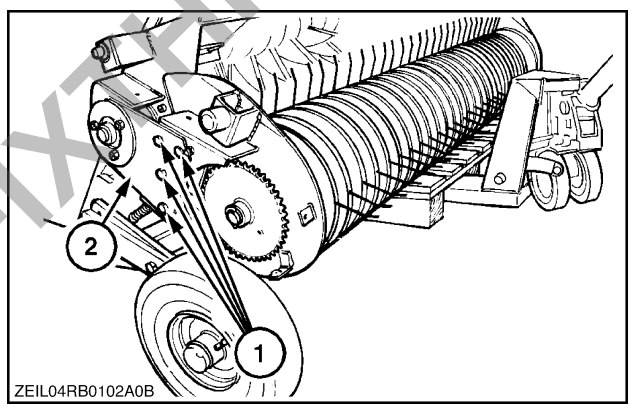
Prior operation:
PICKING Picking up - Remove (K.20.B)

1. With the baler still supported on a stand **(2)** and its wheels chocked roll the pickup back under the baler **(1)**.



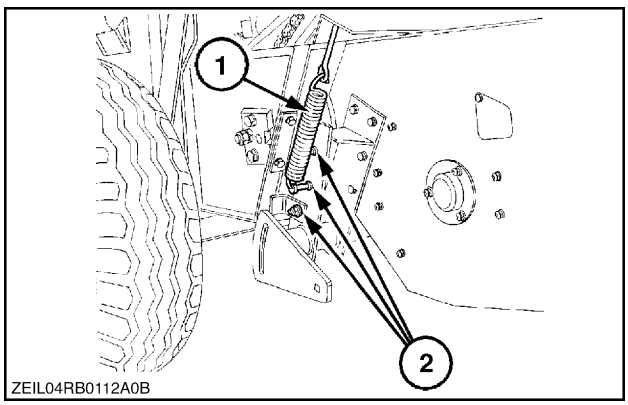
ZEIL04RB0111A0B 1

2. Reinstall the four bolts **(1)** on the left and right pickup pivot plates **(2)**.



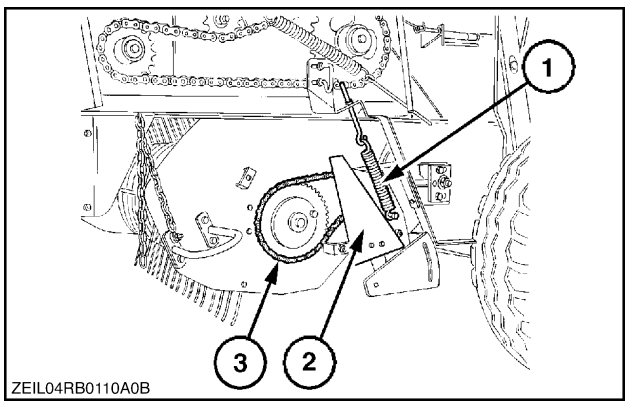
ZEIL04RB0102A0B 2

3. Install the fastening screws **(2)** on the right hand and left hand side of the machine. Install spring **(1)**. Remove the hoist from underneath the pickup.



ZEIL04RB0112A0B 3

4. Refit the chain **(3)** the spring and tensioner **(1)** and then the guard **(1)**.



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CROP PROCESSING - K

CHOPPING Crop cutter - 30.E

BR6080
BR6090

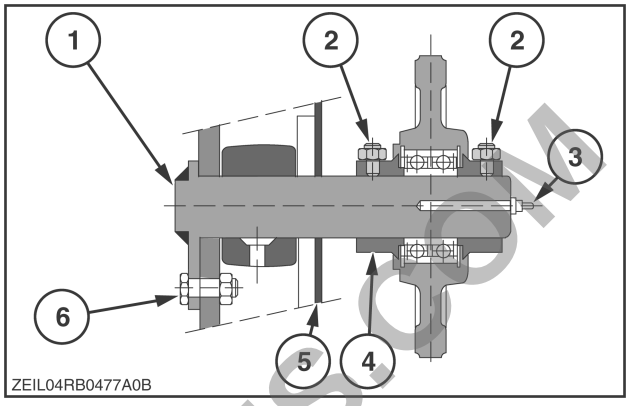
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Chain and bar system Chain tensioner - Remove

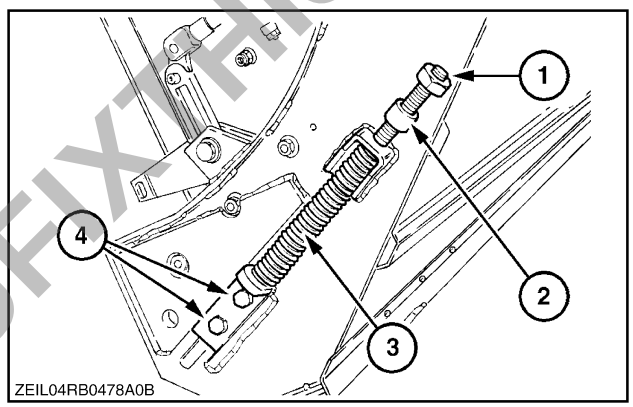
1. DANGER: Engage the hydraulic lock-out valve when working under a raised tailgate

2. Remove the necessary guards to gain access to the idler. Loosen set screws **(2)**. Remove bolt **(6)**. Make sure shaft **(1)** is free from dirt and paint and oil the shaft slightly. Position the two halves of tool **(2)** between plate **(5)** and idler assembly **(4)** and keep them together using a plastic strap **(9)**. Remove grease fitting **(3)** and drive shaft **(1)** away, using a brass punch, until the idler assembly comes free from the shaft.



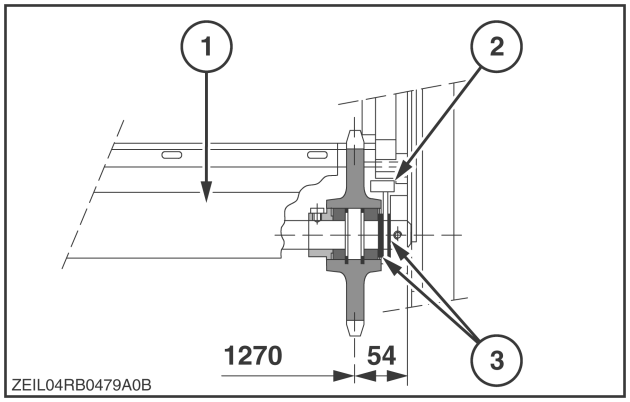
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3. TENSIONER SHAFT REMOVAL TWINE MODEL. Remove the tailgate bottom cover in front of the conveyor chain tensioner shaft. Remove the conveyor chain tension on both sides. Use an M20 nut **(1)** and a piece of tube **(2)** inner diameter + **21 mm 0.827 in** between the nut and the support, to compress the springs.



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4. Open the conveyor chain at the tensioner shaft. Remove shielding **(1)**. Support the conveyor chain tensioner shaft and loosen bolts **(4)**on both sides of the machine. 8. Remove the shaft.



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CROP PROCESSING - K

WRAPPING AND TYING Twine tying - 55.B

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