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CHAPTER 1

About the Bike

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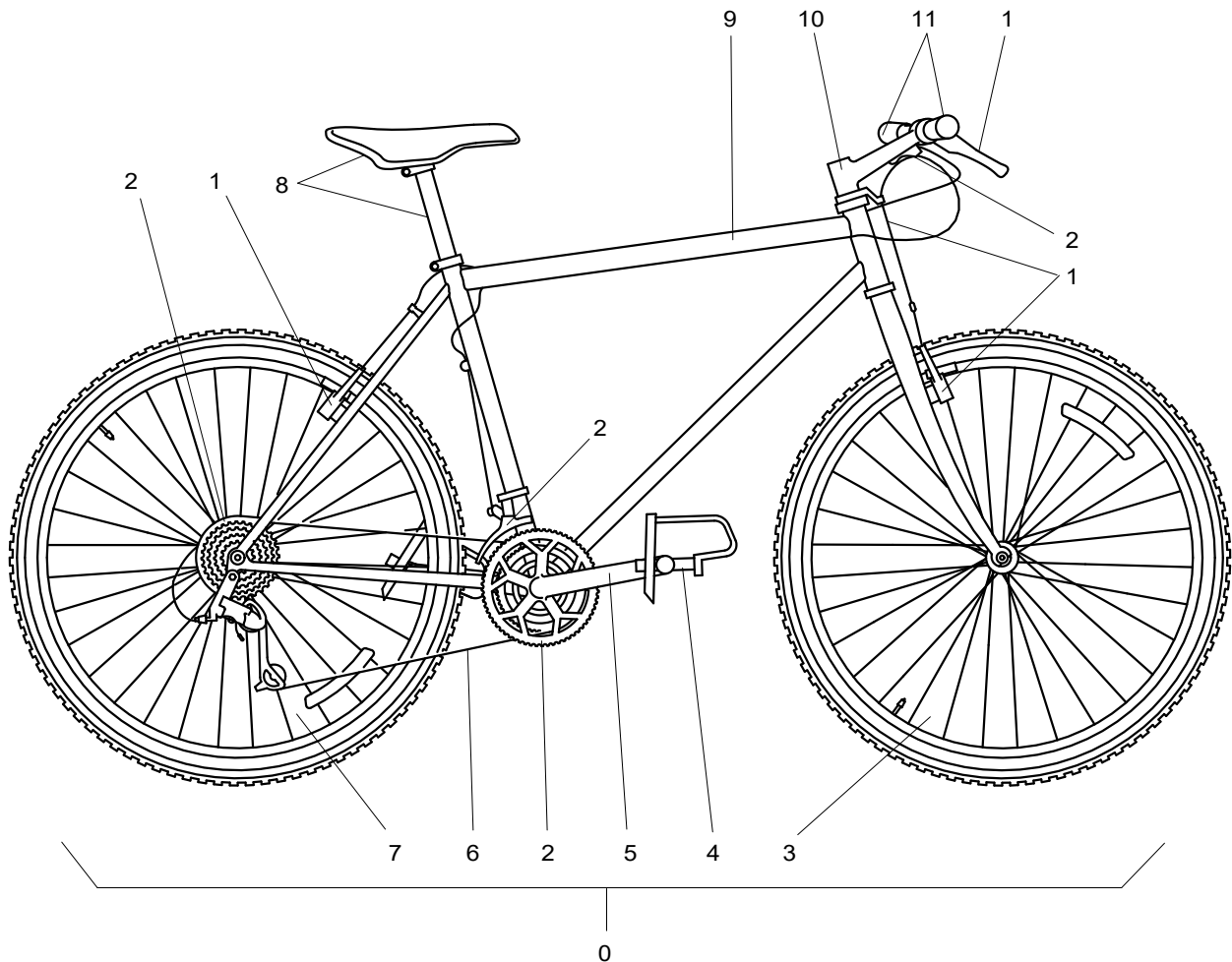
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S1000DBIKE-AAA-D00-00-00-00AA-041A-A**Bicycle - Description of how it is made****Physical description of a bicycle**

1 A bicycle (refer to Fig 1) is a frame and a number of movable components with mechanical parts that are completely open. There are no covers or sheet metal panels that prevent access to the mechanical parts. Thus, you can disassemble the different components of a bicycle (refer to Fig 1 [0]) to do:

- an inspection
- a maintenance task
- a repair task



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Fig 1 Complete bicycle

2 The parts that you can immediately identify on a bicycle are given in Table 1.

Table 1 **Bicycle parts**

Item	Refer to	Definition
Frame	Fig 1 [9]	A bicycle frame is made of metal tubes that are welded together.
Wheels		The wheels include these parts: <ul style="list-style-type: none"> - Hub - Spokes - Metal rim - Rubber tire
- Rear wheel	Fig 1 [7]	
- Front wheel	Fig 1 [3]	
Seat and seat post	Fig 1 [8]	These install into the seat tube with a mechanism you can use to change the height.
Handle bars	Fig 1 [11]	A horizontal bar that attaches to the stem with grips at the ends that attach to the brake levers and the shifters.
Handle bar stem	Fig 1 [10]	This attaches the handle bar to the steering tube (head set).
Cranks	Fig 1 [5]	A lever that extends from the bottom of the bracket to the pedal.
Pedals	Fig 1 [4]	The two platforms for the feet that attach to the crank.
Chain	Fig 1 [6]	A circular set of links that connect the chain ring to the cogs on the freewheel.
Gears	Fig 1 [2]	The gears include: <ul style="list-style-type: none"> - Front chain ring - Rear freewheel - Front and the rear derailleur - Shift lever on the handle bars - Cables
Brakes	Fig 1 [1]	The brakes include: <ul style="list-style-type: none"> - Actuators on the handlebars - Brake cable - Brake callipers - Brake pads

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Bicycle - Description of function

Functional description of a bicycle

3 Below is a list of the different bicycle components and a functional description of them.

Frame	The frame is the skeleton of the bicycle. Refer to Chap 3-4 Frame - Description of how it is made for a functional description of the frame system.
Wheel	The wheel is the point of contact between the bicycle and the road for the bicycle to have movement. Refer to Chap 3-1 Wheel - Description of how it is made for a functional description of the wheel.
Spokes	The spokes are thick wires with tension applied that connect the hub to the rim. You can adjust the tension with the nipple on the rim side.
Hub	The hub attaches to the center of the wheel where the axle and the bearings are.
Metal rim	The metal rim is a metal ring that has a U-shaped cross section to hold the spokes on the inner side and the tire on the outer side.
Seat	The Seat, which is also known as the 'saddle', is used as the support platform for the person to sit on the bicycle.
Seat post	The Seat post is used as a support post for the seat and to change the height of the seat for the rider.
Handle bar	The handle bar is a horizontal bar with handles on each end. The handle bar is a steering mechanism that the rider uses to change the direction of the bicycle. The brake levers are also on the handle bar. Refer to Chap 3-3 Handlebar - Install procedures for information on how to install the handle bar. Refer to Chap 3-3 Handlebar - Remove procedures for information on removing the handlebar.
Handle bar stem	The handle bar stem (the stem) attaches the handle bar to the steering tube. Refer to Chap 3-3 Stem - Install procedures for information on how to install a stem. Refer to Chap 3-3 Stem - Remove procedures for information on how to remove the stem.
Brake levers	When you operate the brake lever, the brake pads move against the wheel to decrease the speed. The brake lever on the left side operates the front brake. The brake lever on the right side operates the rear brake.
Brakes	When you operate the brakes, the brake pad moves against the wheel to decrease the speed of the bicycle. Refer to Chap 3-2 Brake system - Description of how it is made for a description of the braking system.
Shifters	The shifters are the mechanisms that you use to change the gears on the bicycle. There are 7 different types of shifters that have been developed over the years, but they all have the same functionality. When you operate the shifters, they pull the control cable to move the derailleur towards a larger diameter chain ring. The shifters can also loosen the cable to let the derailleur move towards a smaller diameter chain ring. Refer to Chap 3-6 Shifters - Description of how it is made for a functional description of the shifters.
Crank	The crank moves the power to the chain rings when the pedals operate.
Pedals	The pedals move the force of movement from the feet to the cranks.
Chain	The chain moves the power from the chain rings to the cogs on the freewheel. Refer to Chap 3-5 Chain - Clean with chain cleaning fluid for the procedure on how to clean the chain.
Gears	The gears have different mechanisms that function together to change the speed of the bicycle. These mechanisms include: <ul style="list-style-type: none"> the sprockets the chain the derailleur Refer to Chap 3-6 Gears - Description of how it is made for a functional description of the gear system.

- Chain rings The chain rings (also known as the 'chain wheel') pull on the chain when the cranks turn.
- Derailleur A derailleur moves the chain from one sprocket to another to change the gears. There are two different types of derailleur, the front and the rear. The highest ratio (highest gear) is when the chain is on the largest sprocket on the front and the smallest at the rear. To get the lowest gear, the smallest sprocket is at the front and the largest at the rear. Refer to [Chap 3-6 Mechs - Description of how it is made](#) for a functional description of the derailleur system.

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CHAPTER 2

Operation

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Consumables, materials and expendables

1 The consumables, materials and expendables required to carry out the repairs detailed in this Chapter are listed in (Table 1).

Table 1 Consumables, materials and expendables

Fig. No. Item No.	Army		Item description and annotation	No Off D of Q	Remarks
	DMC NSCM	NSN Part Number			
(1)	(2)	(3)	(4)	(5)	(6)
1	KZ222	LL-001	General lubricant	As required	

Support and test equipment

2 The Support and Test Equipment (S&TE) required to carry out the repairs detailed in this Chapter are listed in (Table 2).

Table 2 Support equipment

Fig. No. Item No. (1)	Army		Item description and annotation (4)	No Off D of Q (5)	Remarks (6)
	DMC NSCM (2)	NSN Part Number (3)			
1	KZ666	BSK-TLST-001-01	Tire pressure gauge	1	
2	KZ666	BSK-TLST-001	Specialist toolset	1	

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Bicycle - Description attributed to crew

Introduction

3 Data about the bicycle and its control system is given in this document. This data will help you operate the bicycle.

Controls

3.1 Data about the controls that follow is given in this document:

- [Steering](#)
- [Shifters](#)
- [Brakes](#)
- [Pedals](#)

Steering

3.2 The handlebars are used to steer the bike. They are at the front of the bicycle. You hold one of the handlebar grips with each hand and move the handle bar to change the direction of the bike.

Shifters

3.3 The gears control the ratio of pedal rotation to wheel rotation. You can change this with the shifters [Chap 3-6 Shifters - Description of how it is made](#) . The shifters are on the handlebar.

3.4 A description of the two [shifters](#) follows.

Shifter Location	Affected Gears
Left	The buttons on the left shifter changes the gears on the front derailleur.
Right	The buttons on the right shifter changes the gears on the rear derailleur.

Brakes

WARNING

IF YOU OPERATE THE FRONT BRAKE WITHOUT THE REAR BRAKE YOU CAN CAUSE A CRASH.

3.5 You can decrease the speed of the bike with the brakes. You operate the brakes with the brake levers on the handlebar.

3.6 A description of the brake levers [follows](#) .

Brake Lever Location	Affected Gears
Left	This lever operates the front brake.
Right	This lever operates the rear brake.

Pedals

3.7 The pedals are at the bottom of the seat tube. You operate the pedals to move the bicycle forward.

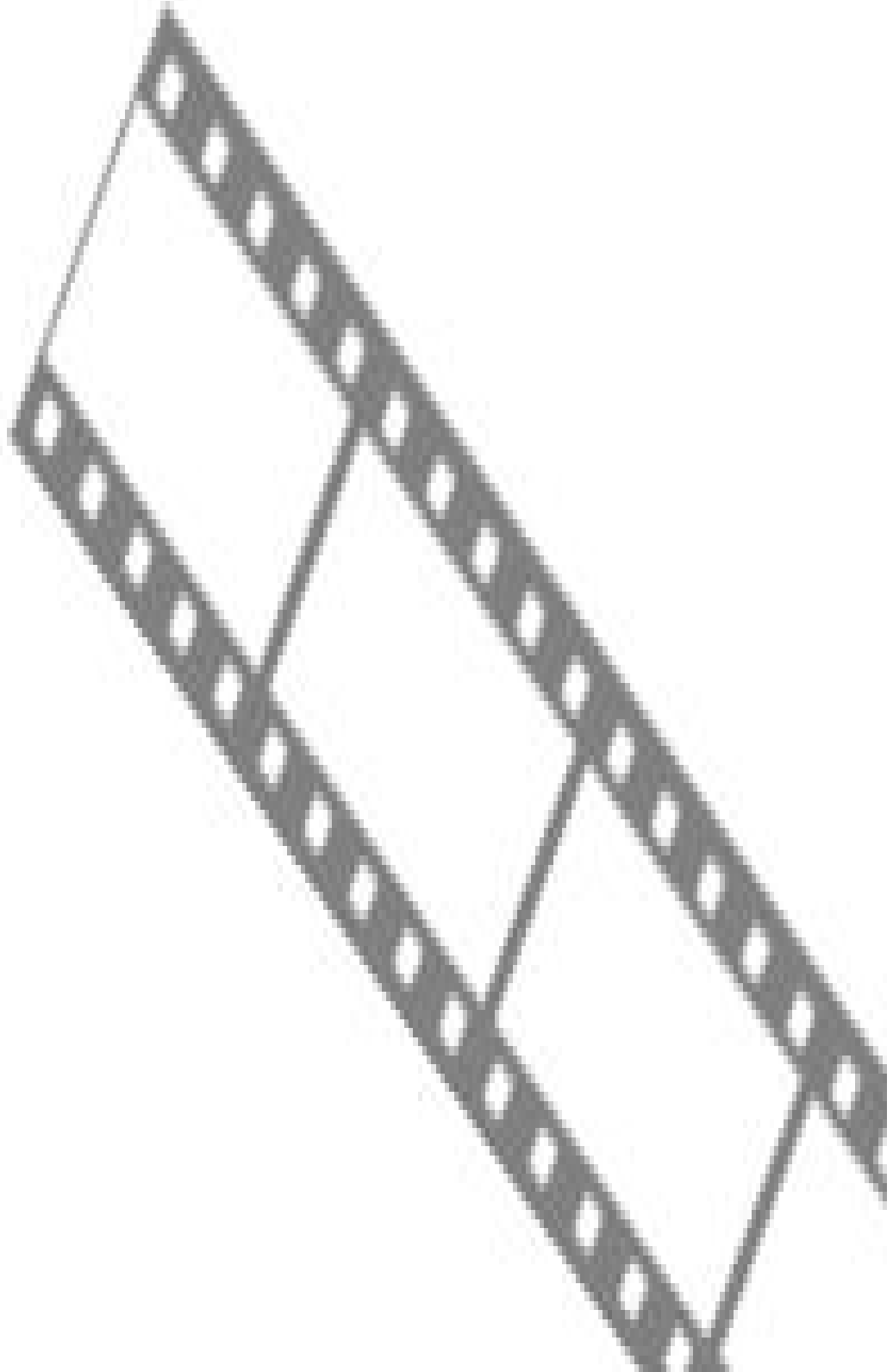
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Bicycle - Pre-operation procedures (crew)**Preliminary requirements**

4 To perform the Bicycle - Pre-operation procedures (crew), noting the CAUTION, proceed as follows:

Procedure

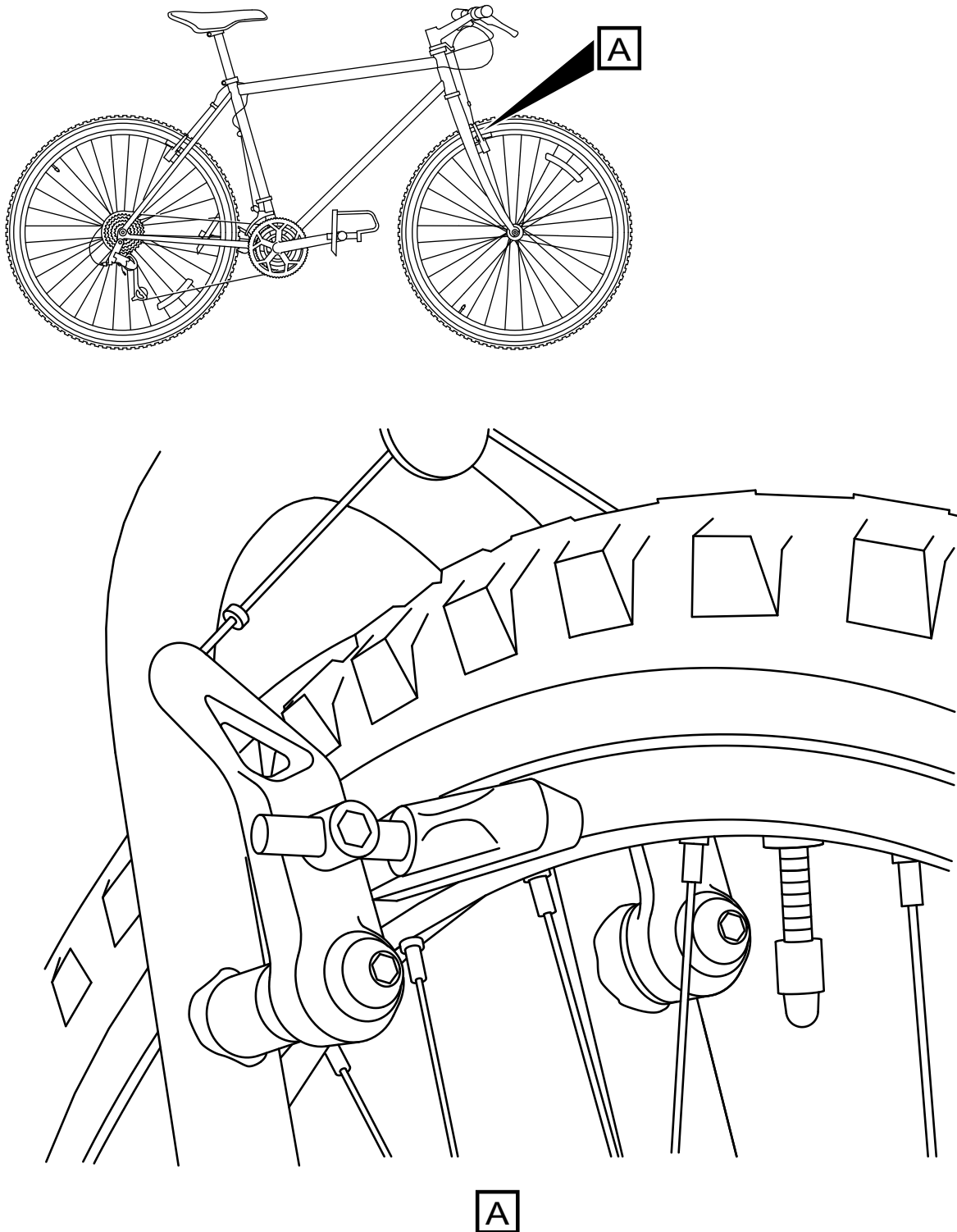
- 5 Examine the condition of the brakes.
 - 5.1 Open the brake quick release.
 - 5.2 Examine the condition and the thickness of the brake pads.
 - 5.2.1 Make sure that there is a large quantity of rubber left.
 - 5.2.2 Make sure that the pad is not too hard.
 - 5.3 Clean all the unwanted material.
- 6 Do an inspection of the installation of the brakes.
 - 6.1 Check the hydraulic brake system function.



6.2 Make sure that there is sufficient clearance between the pad and the inner diameter of the brake surface.

CAUTION

If the position of the pads is too low on the rim, as shown in **Fig 2**, the pads can move. This could cause the separation of the spokes from their mountings., they could slip off causing the spokes to be torn out of their mountings.

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Fig 2 Brake pad seating

- 6.3 Make sure that the pads are correctly installed in the center of the inner diameter of the brake surface.
- 7 Do a check of the tire pressure.
 - 7.1 Do a check of the tire pressure with the [Tire pressure gauge Table 2 \[1\]](#) .
 - 7.2 Compare the value you read with the recommended pressure that is shown into the sidewall of the tire.
 - 7.3 Add the necessary air.
- 8 Examine the condition of the wheels.
 - 8.1 Examine the rims for bulges and dents.
 - 8.2 Examine for splits at the seam where an extruded rim is bonded.
- 9 Do a check of the headset bearings.
 - 9.1 Straddle the bicycle.
 - 9.2 Apply the front brakes and push the handle bars forward.
 - 9.3 Make sure that the headset bearings are tight.
- 10 Do the checks on the chain.
 - 10.1 Visually examine the chain.
 - 10.2 If the chain is too dirty, clean it as specified in the clean chain task (refer to [Chap 3-5 Chain - Clean with chain cleaning fluid](#)).
 - 10.2.1 Visually examine the chain for links that are frozen or that do not move easily.
 - 10.2.2 Apply the necessary [General lubricant Table 1 \[1\]](#) .
 - 10.3 Do a check of the chain to make sure that it is tight.
 - 10.3.1 Make sure that the play of the chain is not too much.
 - 10.3.1.1 Move the chain on the largest chain ring.
 - 10.3.1.2 Try to pull the chain away from the front of the chain ring.
 - 10.3.1.3 Make sure that the chain is not loose. Tighten the chain if, when you pull it away from the chain ring, you can see a full tooth.
 - 10.3.2 Tighten the chain with the Allen wrench from the [Specialist toolset Table 2 \[2\]](#).

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Bicycle - Normal operation procedures (crew)

Pre-ride inspection

Brakes

Pads

- 1. Pads..... Free of unwanted material
- 2. Pads..... Acceptable pad width
- 3. Pads..... Acceptable pad clearance

Callipers

- 1. Link Wire..... Firmly attached

Lever

- 1. Levers..... Approximately 1 inch of travel before engagement
- 2. Levers..... Space between lever and handlebar when fully pulled

Cables

- 1. Cables..... No cuts or fraying

Tires

- 1. Pressure.....

Tire Pressures	Min	Max
Off Road	35lbs	40lbs
On Road	55lbs	60lbs
- 2. Tires..... No cracks or splits

Wheels

- 1. Wheels..... No loose bearings
- 2. Wheels..... True
- 3. Spokes..... Not broken

Spokes not broken

- 4. Spokes..... Tight
- 5. Axle Nuts..... Tight

Headset

- 1. Headset bearings..... Tight

Chain

- 1. Links..... Easy movement of links

Handlebar

WARNING

DO NOT RIDE WITH A CRACKED STEM

Stem cracked

- 1. Replace stem

Stem is loose

- 1. Tighten stem

Handlebars twist in stem

- 2. Tighten clamp bolt

Computer

1. Computer Display.....	ALTITUDE	0 miles
	SPEED	0 mph
	DISTANCE	0 miles
	SPEED	0 mph
	DISTANCE	0 miles

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Bicycle - Post-operation procedures (crew)

Preliminary requirements

11 To perform the Bicycle - Post-operation procedures (crew), proceed as follows:

Procedure

12 Clean the bicycle.

12.1 Clean the bicycle with water.

12.2 Use the brush from the [Specialist toolset Table 2 \[2\]](#) to clean the brakes, the shift levers, the sprockets and the tires.

12.3 Let the bicycle dry.

13 Lubricate the bicycle

13.1 Spray the [General lubricant Table 1 \[1\]](#), to these moving parts:

the brake pivots

the derailleur pivots

the derailleur tension guides

the brake lever pivots

the control cables

the gear sprockets

the chain

13.2 Remove the lubricant which is more than the necessary.

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CHAPTER 3

Maintenance

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3-6 Gears

Consumables, materials and expendables

1 The consumables, materials and expendables required to carry out the repairs detailed in this Chapter are listed in (Table 1).

Table 1 Consumables, materials and expendables

Fig. No. Item No.	Army		Item description and annotation	No Off D of Q	Remarks
	DMC NSCM	NSN Part Number			
(1)	(2)	(3)	(4)	(5)	(6)
1	KZ222	LL-004	Degreasing agent	As required	
2	KZ666	BSK-TLST-023-14	Detergent A	1	
3	KZ666	BSK-TLST-001-15	Detergent B	1	
4	KZ222	LL-001	General lubricant	As required	
5	KZ222	LL-002	Rubbing alcohol	As required	
6			Floor covering	As required	
7	KZ222	LL-005	General grease	As required	
8	KZ222	LL-007	Wet lube	1	
9	KZ222	LL-006	Dry lube	1	
10	KK999	PPP-001	Floor covering	1	

Support and test equipment

2 The Support and Test Equipment (S&TE) required to carry out the repairs detailed in this Chapter are listed in (Table 2).

Table 2 Support equipment

Fig. No. Item No.	Army		Item description and annotation	No Off D of Q	Remarks
	DMC NSCM	NSN Part Number			
(1)	(2)	(3)	(4)	(5)	(6)
1	KZ666	BSK-TLST-999-01	Test stand	1	
2	KZ666	BSK-TLST-001-04	Tire lever	1	

(continued)

Table 2 Support equipment (continued)

Fig. No. Item No. (1)	Army DMC NSCM (2)	NSN Part Number (3)	Item description and annotation (4)	No Off D of Q (5)	Remarks (6)
3	KZ666	BSK-TLST-001-05	Foot pump	1	
4	KZ666	BSK-TLST-001-07	Marker pen	1	
5	KZ666	BSK-TLST-001-09	Water hose	1	
6	KZ666	BSK-TLST-001-02	Stiff bristle brush	1	
7	KZ666	BSK-TLST-001-11	Sponge	1	
8	KZ666	BSK-TLST-001-01	Tire pressure gauge	1	
9	KZ666	BSK-TLST-001	Specialist toolset	1	
10	KZ222	LL-003	Chain cleaning fluid	As required	
11	KZ666	BSK-TLST-001-03	Chain cleaning tool	1	
12	KZ666	BSK-TLST-001-13	Set of Allen wrenches	1	
13	KZ555	Stand-001	Work stand	1	
14	KZ666	BSK-TLST-001-12	Clean dry cloth	1	
15	HS111	HSP-D001	Extra firm hold hairspray	1	
16	Bikey	Stand-001	Work stand	1	
17	Stand	Stand-001	Work stand	1	
18	KZ666	BSK-TLST-001-08	8mm Allen wrench	1	
19	KK999	PPP-001	Floor covering	1	

S1000DBIKE-AAA-D00-00-00-00AA-330A-A**Bicycle - Place on test stand****Preliminary requirements**

- 3 To perform the Bicycle - Place on test stand, proceed as follows:

Procedure

- 4 Ensure [Test stand Table 2 \[1\]](#) is level.
- 5 Place bicycle on the test stand.
- 6 Tighten clamps until bicycle is securely attached to the test stand.

S1000DBIKE-AAA-D00-00-00-00AA-663A-A**Bicycle - Standard repair procedures****Preliminary requirements**

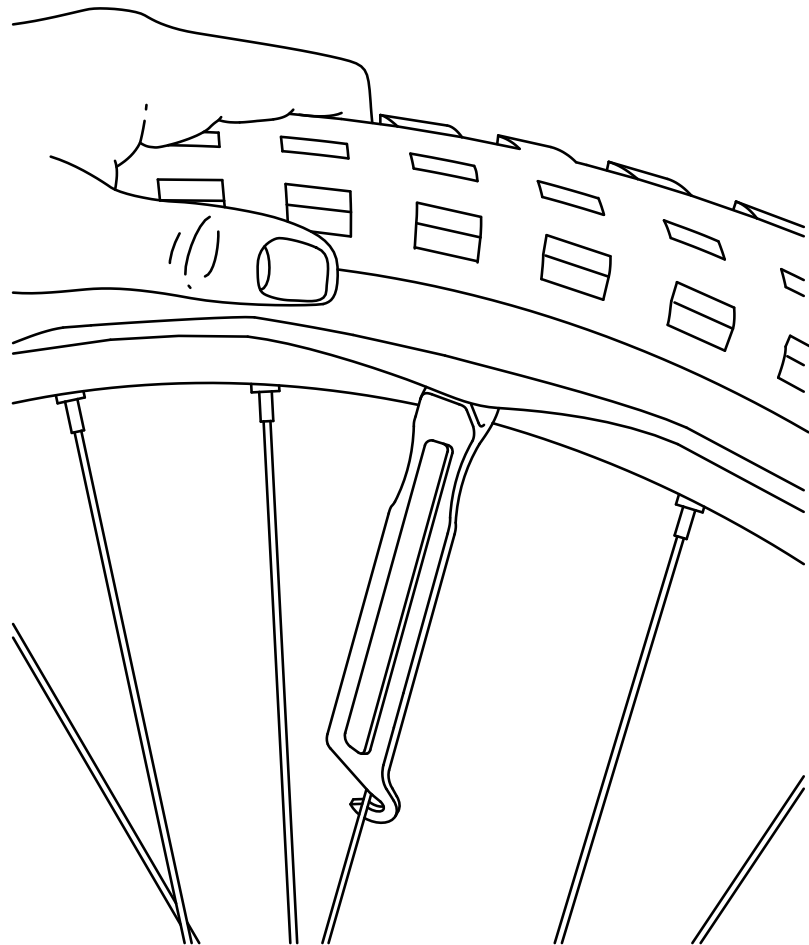
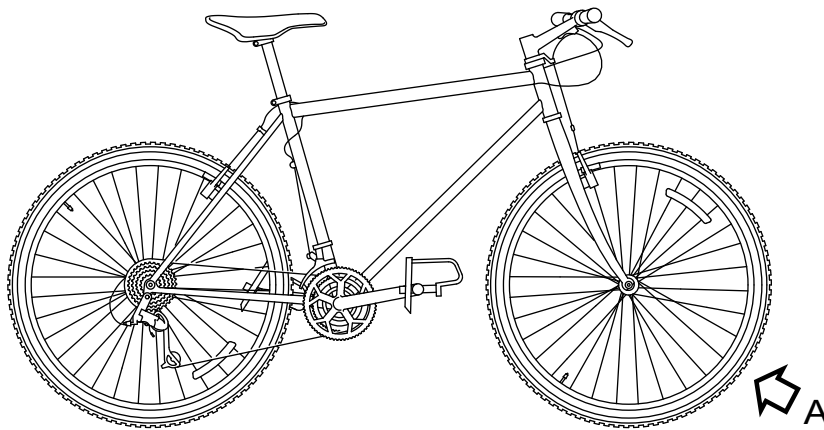
- 7 To perform the Bicycle - Standard repair procedures, noting the CAUTION, proceed as follows:

CAUTION

When you remove the rear wheel to repair a puncture, disconnect the brake arm from the chain stay.

Procedure

- 8 Remove the rear wheel. (Refer to [Chap 3-1 Rear wheel - Remove procedures](#))
- 9 Make sure that there is no air in the tube.
- 9.1 Loosen the cap on the valve stem.
- 9.2 Push the valve stem core down to bleed all the air.
- 10 Use a [Tire lever Table 2 \[2\]](#) to move the tire bead out of its seat. Lift the tire bead above the lip of the rim.

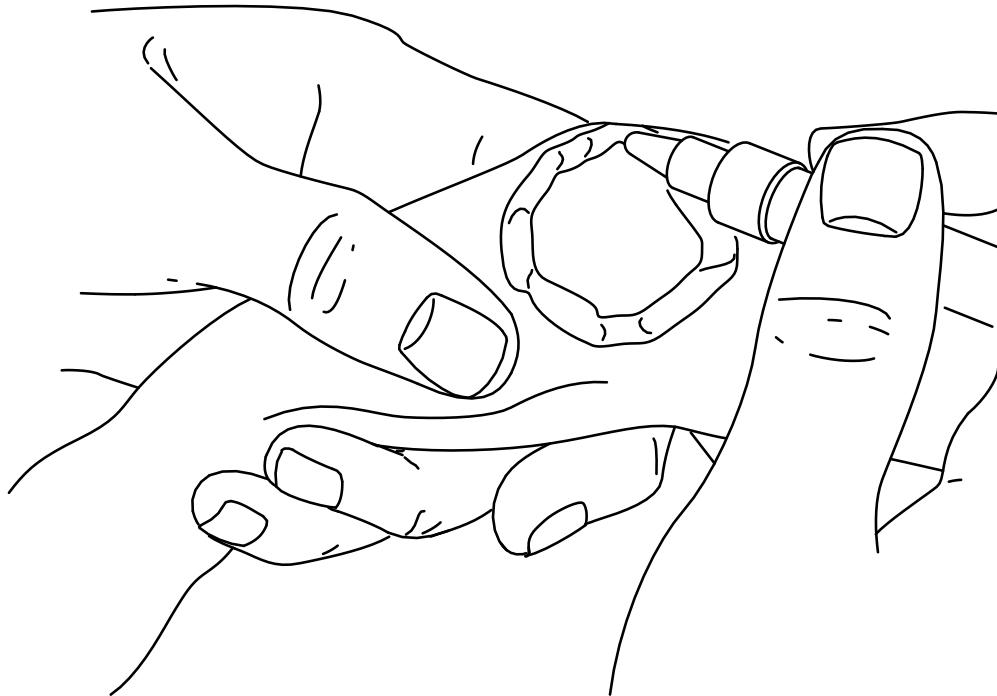
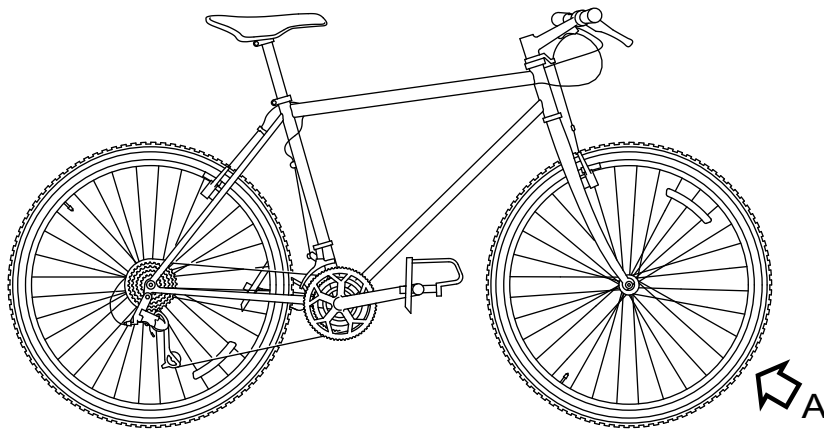


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Fig 1 Unseating the tire with a tire lever

- 11 Remove the tube.
- 12 Inflate (not fully) the tube with the [Foot pump Table 2 \[3\]](#). Examine the tube for leaks.
- 13 If you find a leak, identify it with a circle made with a [Marker pen Table 2 \[4\]](#).

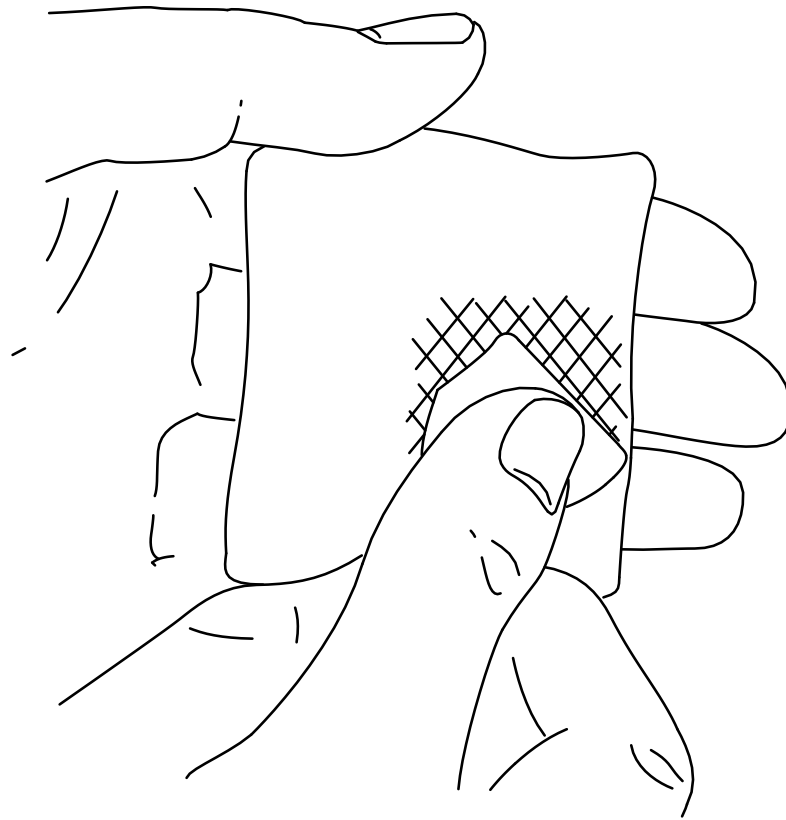
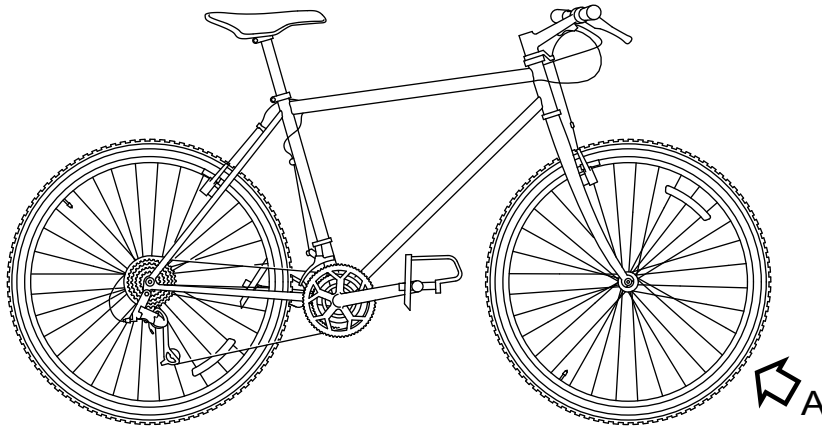
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Fig 2 Circle leak

14 Release most of the air.

15 Use a piece of sandpaper from the [Marker pen Table 2 \[4\]](#) and make the area on and around the hole rough. This will help the patch bond correctly.

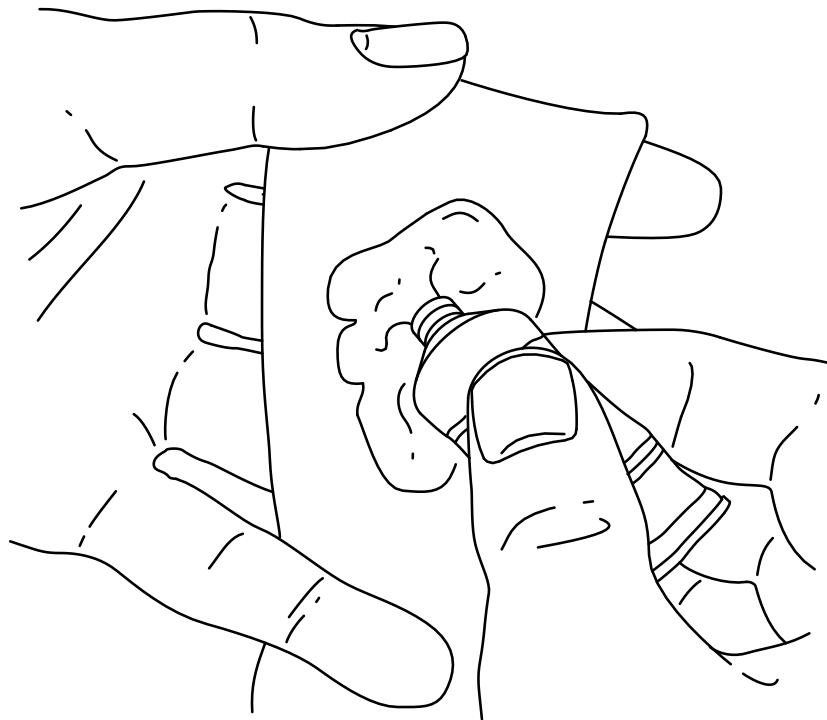
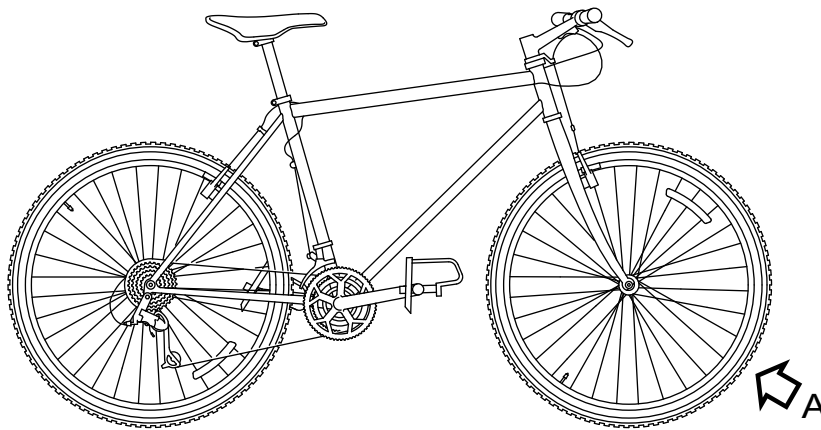


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Fig 3 Sanding the application area

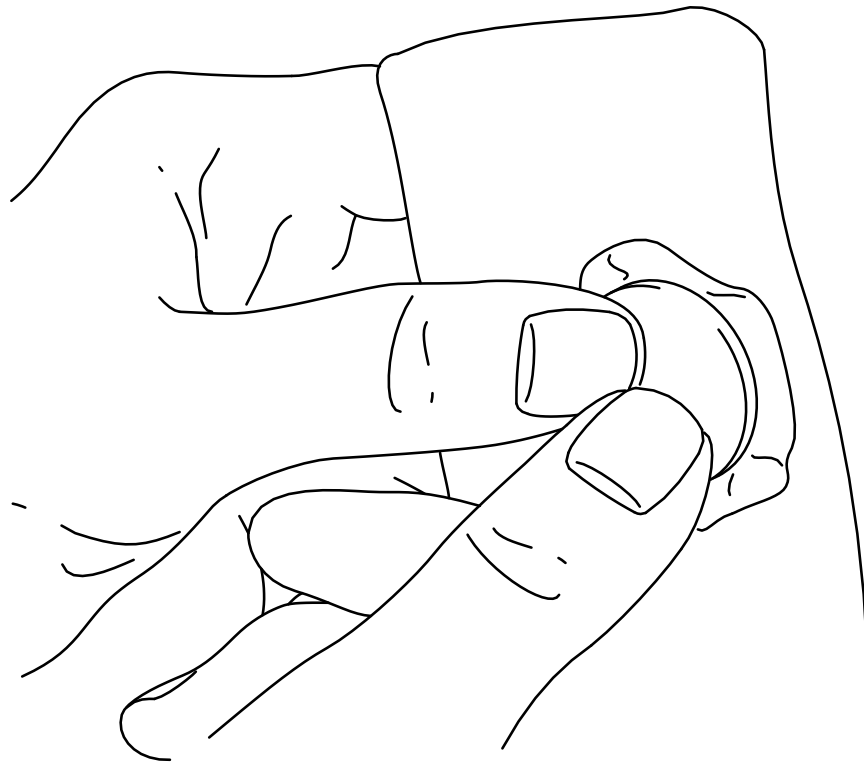
16 Apply a thin layer of glue from the patch kit on and around the hole. Make sure that the area with the glue is larger than the patch.

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Fig 4 Apply glue to application area

- 17 Let the glue dry for five minutes until it becomes tacky and dim.
- 18 Remove the rear foil from the patch (that is a part of the patch kit) and push the patch in its position.
- 19 Push with your thumbs from the center of the patch to the outer part of the applied area.



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Fig 5 Apply pressure to tube

- 20 Remove the thin cover from the patch.
- 21 Put a very thin layer of talcum powder on and around the patch.
- 22 Inflate (not fully) the repaired tube with the foot pump.
- 23 Start at the valve stem and install the tube again between the tire and the rim.
- 24 Push the valve stem through the hole in the rim.
- 25 Make sure that the valve stem is straight.

26 Install the remaining of the tire.

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Bicycle - Other procedures to clean

Preliminary requirements

27 To perform the Bicycle - Other procedures to clean, noting the WARNINGS and CAUTIONS, proceed as follows:

WARNINGS

- (1) DO NOT GET **DETERGENT A TABLE 1 [2]** INTO YOUR EYES. IF IT GETS INTO YOUR EYES, WASH THEM IMMEDIATELY IN CLEAN WARM WATER.
- (2) DO NOT GET **DETERGENT B TABLE 1 [3]** INTO YOUR EYES. IF IT GETS INTO YOUR EYES, WASH THEM IMMEDIATELY IN CLEAN WARM WATER.

CAUTIONS

- (1) Do not use a **Water hose Table 2 [5]** that has high pressure. A water hose that has high pressure can cause some parts to become loose or full of water.
- (2) Do not point the hose directly at the hub or at the bottom bracket bearings. This can cause damage to the parts.
- (3) Apply **Detergent B Table 1 [3]** in accordance with the instruction on the container. The substance may cause damage to the Bike paint if it is not applied correctly.

27.1 The bicycle is outdoors

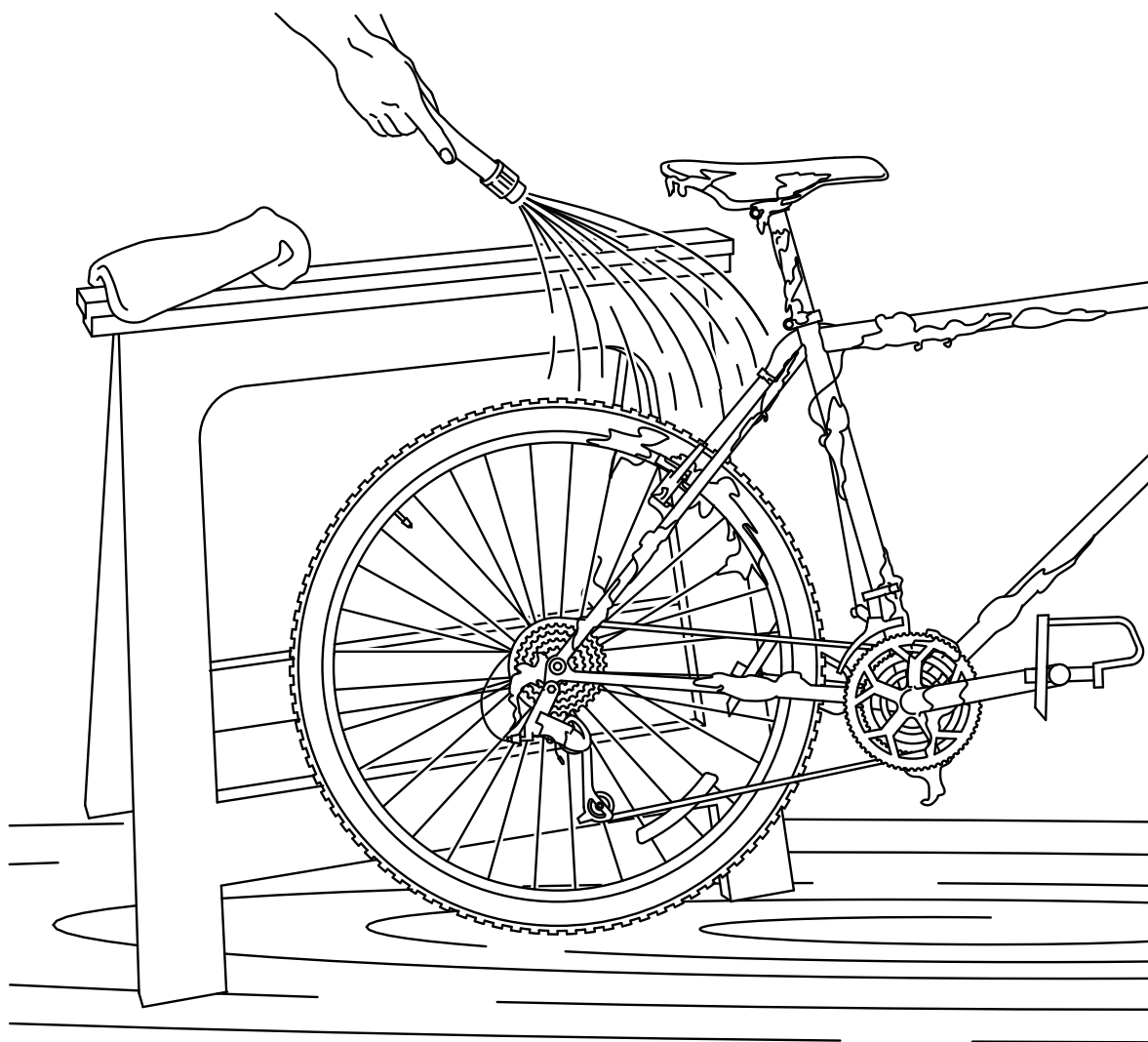
Applicability: Type = Mountain bicycle, Model = Brook trekker ()

28 This task will require the assistance of up to two personnel (1 - Chemical technician, 1 - Operator) to perform the task correctly and safely.

Applicability End

Procedure

29 Clean the bicycle with water to remove all dirt. Refer to **Fig 6**.



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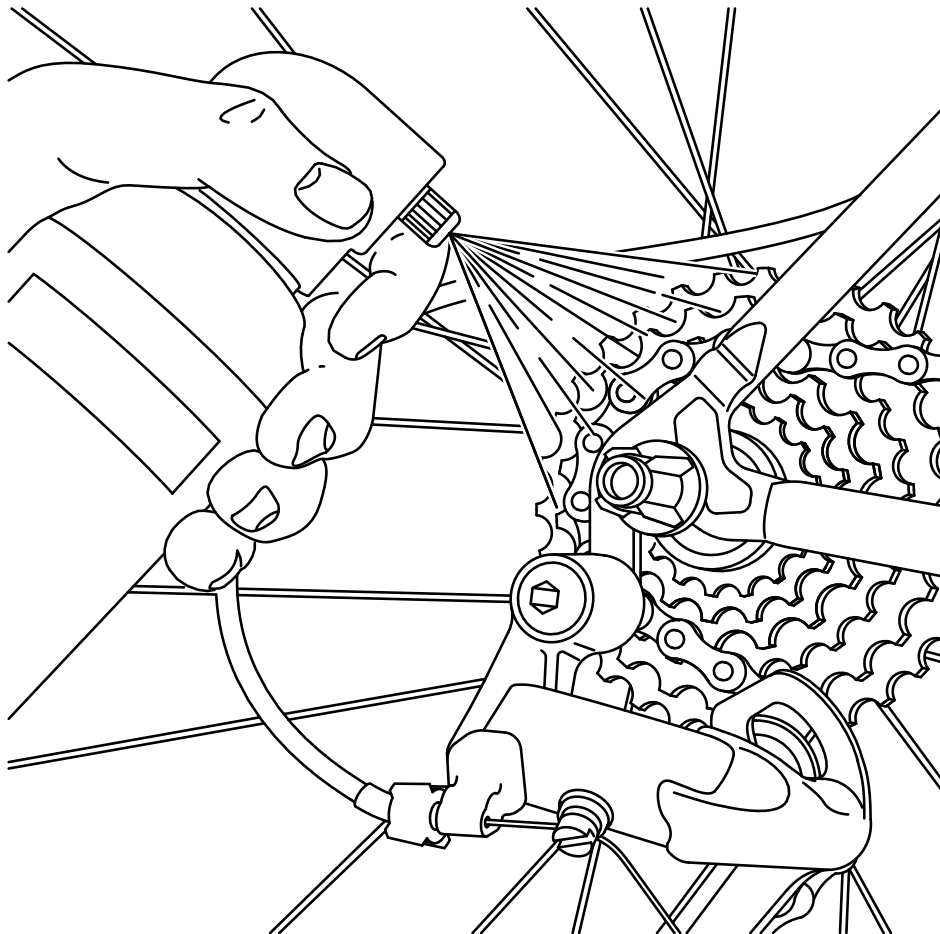
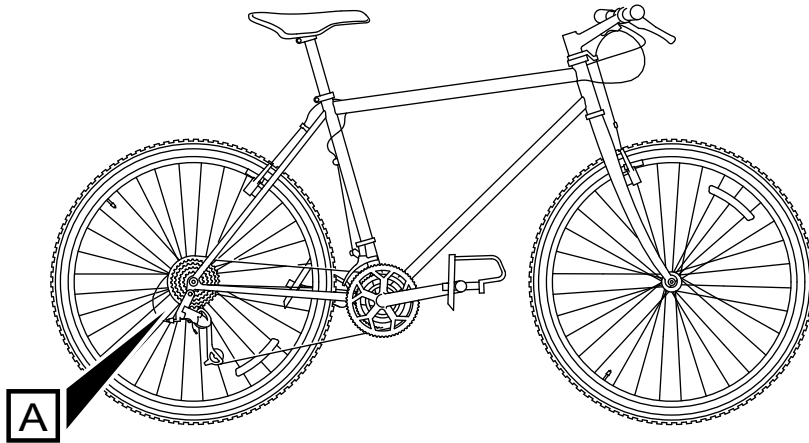
Fig 6 Cleaning the bike

30 Use a [Stiff bristle brush Table 2 \[6\]](#) to get access to areas that are not easy to clean. These are the shift levers, the knobby tires, and the brakes.

31 Clean the caked grime from the chain and the sprockets with a screwdriver that has a small blade.

32 Remove the grease from the freewheel assembly with the [Degreasing agent Table 1 \[1\]](#) as shown in [Fig 7](#) . Use a brush to remove the grease from these parts:

- sprockets
- guide and tension wheels of the derailleur
- chain ring teeth



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Fig 7 Degreasing the freehub

33 Flush the sprockets, the derailleurs, the chain rings and the chain with water.

NOTE

If necessary, do the flush procedure again.

Applicability: Type = Mountain bicycle, Model = Mountain storm ()

Mountain bicycle

- 33.1 Soak the [Sponge Table 2 \[7\]](#) into [Detergent A Table 1 \[2\]](#) and water.
- 33.2 Clean the bicycle with the soaked sponge.
- 33.3 Flush the bicycle and make sure that all [Detergent A Table 1 \[2\]](#) is removed.
- 33.4 Move the bicycle up and down on its tires to remove all water.

Applicability End

Applicability: Type = Mountain bicycle, Model = Brook trekker ()

Mountain bicycle

- 33.1 Soak the [Sponge Table 2 \[7\]](#) into [Detergent B Table 1 \[3\]](#) and water.
- 33.2 Clean the bicycle with the soaked sponge.
- 33.3 Soak the [Sponge Table 2 \[7\]](#) into [Detergent A Table 1 \[2\]](#) and water.
- 33.4 Fully clean the bicycle with the soaked sponge.
- 33.5 Flush the bicycle to make sure that all detergents are removed.
- 33.6 Move the bicycle up and down on its tires to remove all water.

Applicability End

- 34 Lubricate the bicycle (refer to [Chap 3-5 Chain - Oil](#)).

Requirements after job completion

- 35 To complete the Bicycle - Other procedures to clean, proceed as follows:
 - 35.1 Make sure the bicycle is dry

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Bicycle - Scheduled maintenance lists

To do the pre-ride checks

Preliminary requirements

- 36 To perform the Bicycle - Scheduled maintenance lists, proceed as follows:

[Chap 2 Bicycle - Pre-operation procedures \(crew\)](#) Bicycle KZ555 Bicycle-001 1 Mountain bicycle To do the post-ride maintenance

Preliminary requirements

- 36 To perform the Bicycle - Scheduled maintenance lists, proceed as follows:

[Chap 2 Bicycle - Post-operation procedures \(crew\)](#) Bicycle KZ555 Bicycle-001 1 Mountain bicycle Clean brake pads

Preliminary requirements

- 36 To perform the Bicycle - Scheduled maintenance lists, proceed as follows:

[Chap 3-2 Brake pads - Clean with rubbing alcohol](#) Brake pads KT444 BR-PADS-001 1 1 Mountain bicycle Clean the chain

Preliminary requirements

- 36 To perform the Bicycle - Scheduled maintenance lists, proceed as follows:

Chap 3-5 Chain - Clean with chain cleaning fluid Chap 2 Bicycle - Pre-operation procedures (crew) Chain
KZ555 Ch-001 1 Chap 2 Bicycle - Pre-operation procedures (crew) Clean the hub bearings

Preliminary requirements

36 To perform the Bicycle - Scheduled maintenance lists, proceed as follows:

36.1 Rear wheel removed Refer to [Chap 3-1 Rear wheel - Remove procedures](#).

37 This task will require the assistance of up to two personnel (1 - Supervisor, 1 - Basic user) to perform the task correctly and safely.

Hubs KZ555 HB-002 6 6 Mountain bicycle

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Bicycle - Scheduled maintenance checks

Pre-ride 1 1 [Chap 2 Bicycle - Pre-operation procedures \(crew\)](#) To do an inspection of the brakes [Chap 2 Bicycle - Pre-operation procedures \(crew\)](#) To do an inspection of the brakes installation [Chap 2 Bicycle - Pre-operation procedures \(crew\)](#) To do a check of the tire pressure [Chap 2 Bicycle - Pre-operation procedures \(crew\)](#) To do an inspection of the wheel condition [Chap 2 Bicycle - Pre-operation procedures \(crew\)](#) To do a check of the headset bearings [Chap 2 Bicycle - Pre-operation procedures \(crew\)](#) To do a check of the chain

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Bicycle - Time limits

Bicycle KZ555 Bicycle-001 1 1 1 Mountain bicycle Brake pads KT444 BR-PADS-001 4 1 Mountain bicycle
Chain KZ555 Ch-001 1 Mountain bicycle Hub bearings KZ555 HB-001 2 6 Mountain bicycle

CHAPTER 3-1

INDEX OF NATO STOCK NUMBERS
TO
CHAPTER, FIGURE AND ITEM NUMBER

CONTENTS

	Page
Index pages.....	2

**INDEX OF NATO STOCK NUMBERS
TO
CHAPTER, FIGURE AND ITEM NUMBER**

NATO stock number	Chapter - sub-chapter	Fig & item	NATO stock number	Chapter - sub-chapter	Fig & item

CHAPTER 3-2

INDEX OF MANUFACTURERS' PART/DRAWING NUMBERS
TO
CHAPTER, FIGURE AND ITEM NUMBER

CONTENTS

	Page
Index pages.....	2

INDEX OF MANUFACTURERS' PART/DRAWING NUMBERS
TO
CHAPTER, FIGURE AND ITEM NUMBER

Manufacturers part or dwg no.	Chapter - sub-chapter	Fig & item	Manufacturers part or dwg no.	Chapter - sub-chapter	Fig & item
BICYCLE-001	5	1-			
BICYCLE-001/1	5	1-1			
BICYCLE-001/2A	5	1-2			
BICYCLE-001/2B	5	1-2			
BICYCLE-001/3	5	1-3			
BICYCLE-001/4	5	1-4			
BICYCLE-001/5	5	1-5			
CP-001	5	1-9			
LIRUS-L1-10	5	2-5			
LIRUS-L1-11	5	2-10			
LRU-B001	5	2-12			
LRU-B003	5	2-13			
LRU-B124	5	2-14			
LRU-B556	5	2-15			
LRU-B789	5	2-16			
LRU1001	5	1-6			
	5	2-			
LRU1010	5	2-1			
LRU1011	5	2-2			
	5	2-18			
LRU1012	5	2-3			
LRU1013	5	2-4			
LRU1018	5	2-6			
LRU1019	5	2-7			
LRU1020	5	2-9			
LRU1022	5	2-8			
LRU1026	5	2-11			
LRU2010	5	2-17			
LRU2018	5	2-19			
WH-001	5	1-7			
WH-002	5	1-8			

CHAPTER 3-3

INDEX OF NATO STOCK NUMBERS
TO
ITEM NAMES AND DESCRIPTIONS

CONTENTS

	Page
Index pages.....	2

INDEX OF NATO STOCK NUMBERS TO ITEM NAMES AND DESCRIPTIONS

NATO stock number	Item name	Item description

CHAPTER 3-4

INDEX OF NATO SUPPLY CODES FOR MANUFACTURERS
TO
MANUFACTURERS NAME

CONTENTS

	Page
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INDEX OF NATO SUPPLY CODES FOR MANUFACTURERS TO MANUFACTURERS NAME

NSCM	MANUFACTURER	NSCM	MANUFACTURER
KZ777	??		
KZ888	??		
KZ999	??		

CHAPTER 3-5

Drive train

CONTENTS

Para

- 1 Consumables, materials and expendables
- 2 Support and test equipment
 - Drive train - Correlated fault
 - Drivetrain - Description of how it is made
- 3 Drive train
 - Chain - Oil
- 5 Preliminary requirements
- 6 Procedure (CAUTION)
 - Chain - Clean with chain cleaning fluid
- 11 Preliminary requirements
- 12 Procedure
- 18 Requirements after job completion

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2	Deraillleur tension.....	6
3	Brake lever pivots.....	7
4	Lubricate the chain.....	8

Consumables, materials and expendables

1 The consumables, materials and expendables required to carry out the repairs detailed in this Chapter are listed in (Table 1).

Table 1 Consumables, materials and expendables

Fig. No. Item No.	Army		Item description and annotation	No Off D of Q	Remarks
	DMC NSCM	NSN Part Number			
(1)	(2)	(3)	(4)	(5)	(6)
1	KZ222	LL-007	Wet lube	1	
2	KZ222	LL-006	Dry lube	1	
3	KK999	PPP-001	Floor covering	1	
4	KZ222	LL-001	General lubricant	As required	

Support and test equipment

2 The Support and Test Equipment (S&TE) required to carry out the repairs detailed in this Chapter are listed in (Table 2).

Table 2 Support equipment

Fig. No. Item No. (1)	Army		Item description and annotation (4)	No Off D of Q (5)	Remarks (6)
	DMC NSCM (2)	NSN Part Number (3)			
1	KZ666	BSK-TLST-001-12	Clean dry cloth	1	
2	KK999	PPP-001	Floor covering	1	
3	KZ666	BSK-TLST-001-02	Stiff bristle brush	1	
4	KZ222	LL-003	Chain cleaning fluid	As required	
5	KZ666	BSK-TLST-001-03	Chain cleaning tool	1	

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Drive train - Correlated fault

Fault reporting

Correlated fault

Message

Fault code: 100FC01
The pedal mechanism is jammed

Message

Fault code: 200FC01
The derailleur is jammed

Isolate detected fault

Table 3 Detected line replaceable unit

Nomenclature	Identification No.
Bicycle chain	KZ120 Tchain-120

Remarks

Prepare the derailleur to put transmission chain back on pedal mechanism.

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Drivetrain - Description of how it is made

Drive train

3 The drive train is the group of components that are necessary for the operation of the bicycle. The drive train is the primary system for the movement of the bicycle. A typical drive train has the chain wheels, the chain, the pedals and the saddle.

4 Since the drive train has many components, it is necessary to do a regular maintenance. The drive train maintenance is easy and the users can disassemble and assemble each part of the drive train. Because of this, when one part is defective, it is possible to remove and replace it with a new one.

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Chain - Oil

Preliminary requirements

5 To perform the Chain - Oil, noting the WARNINGS and CAUTION, proceed as follows:

WARNINGS

(1) **DRY LUBE IS A VERY DANGEROUS SUBSTANCE. DO NOT GET IT ONTO YOUR SKIN. USE IT IN A WELL VENTILATED AREA. IF YOU SWALLOW IT SEEK IMMEDIATE MEDICAL ADVICE. IF IT GETS INTO YOUR EYES WASH YOUR EYES IN CLEAN WATER AND SEEK MEDICAL ADVICE.**

(2) **WET LUBE IS A VERY DANGEROUS SUBSTANCE. DO NOT GET IT ONTO YOUR SKIN. USE IT IN A WELL VENTILATED AREA. IF YOU SWALLOW IT SEEK IMMEDIATE MEDICAL**

ADVICE. IF IT GETS INTO YOUR EYES WASH YOUR EYES IN CLEAN WATER AND SEEK MEDICAL ADVICE.

5.1 The bicycle chain is clean and dry

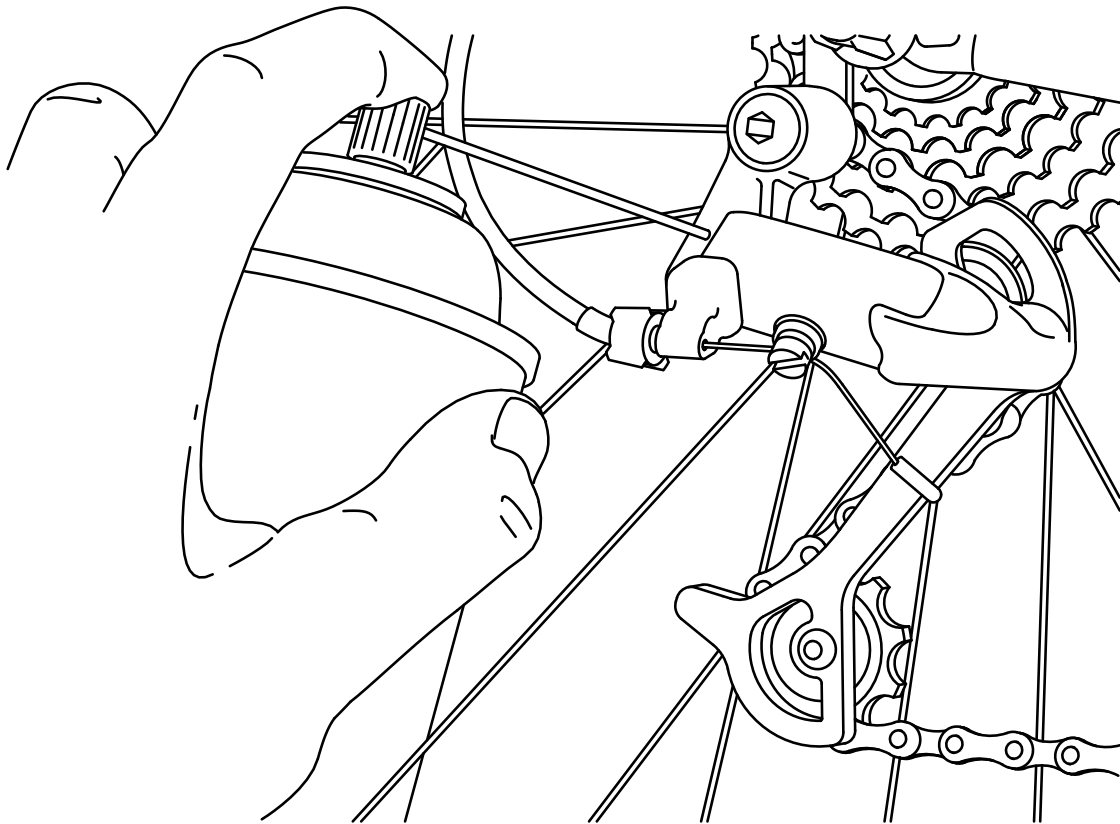
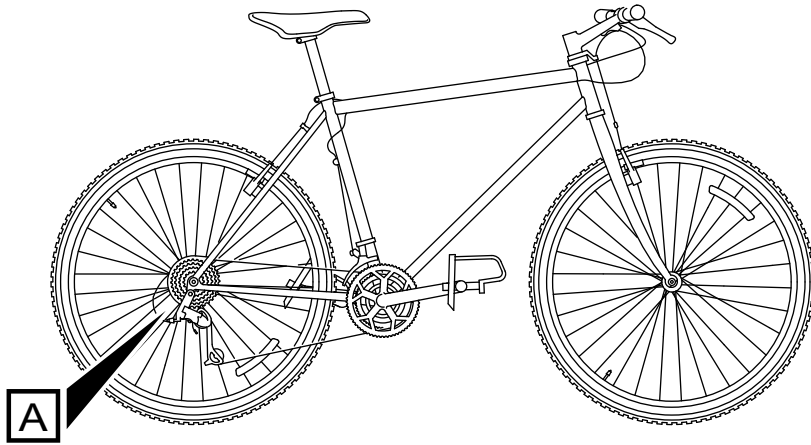
Procedure

6 Apply the penetrating lubricant into all the parts of the bike that move. This includes:

- derailleur pivots (refer to [Fig 1](#))
- derailleur tension (refer to [Fig 2](#))
- brake lever pivots (refer to [Fig 3](#))

These brake lever pivots include:

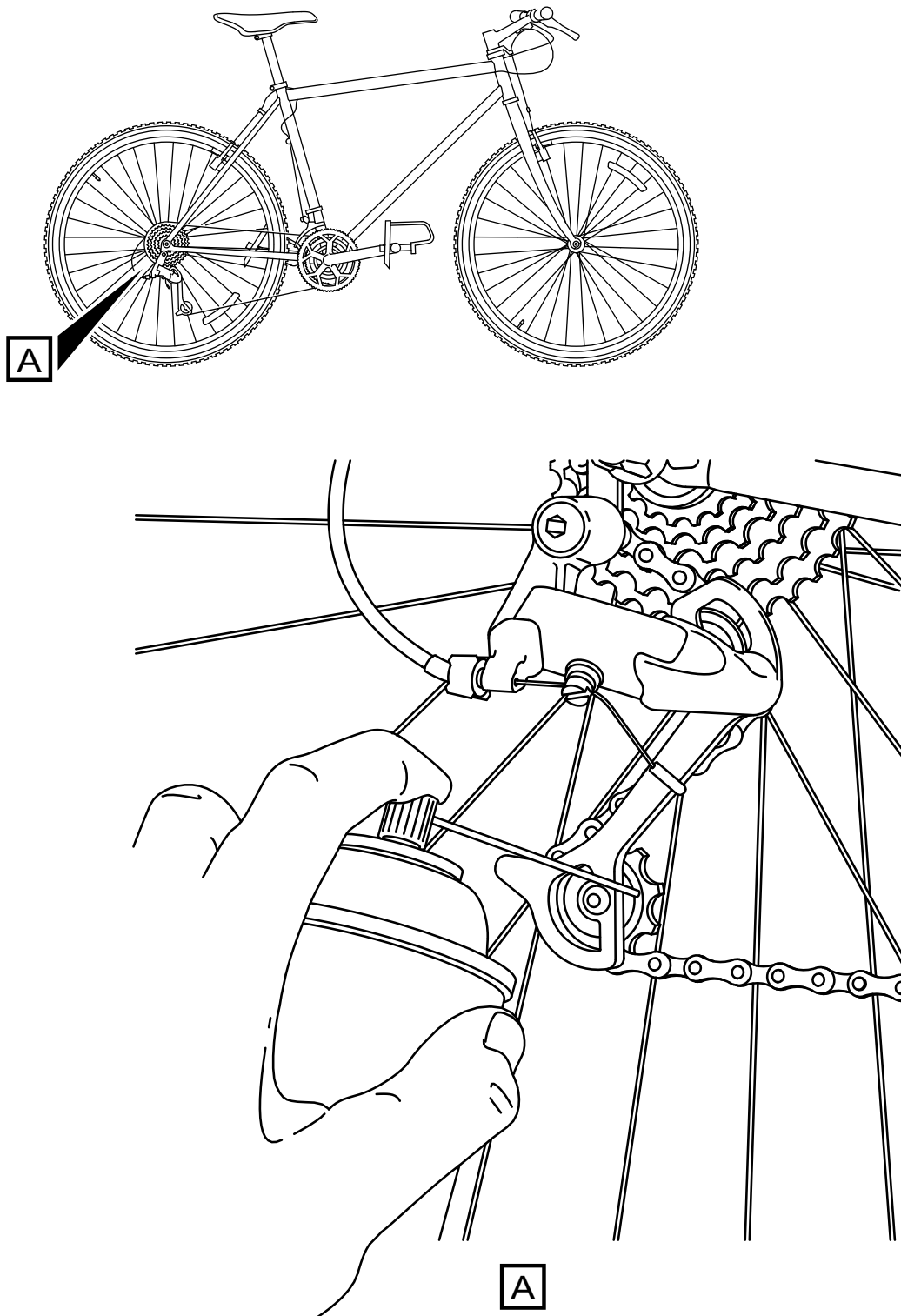
- derailleur pivots
- derailleur tension
- guide wheels
- brake lever pivots
- control cables and where they go into their casings



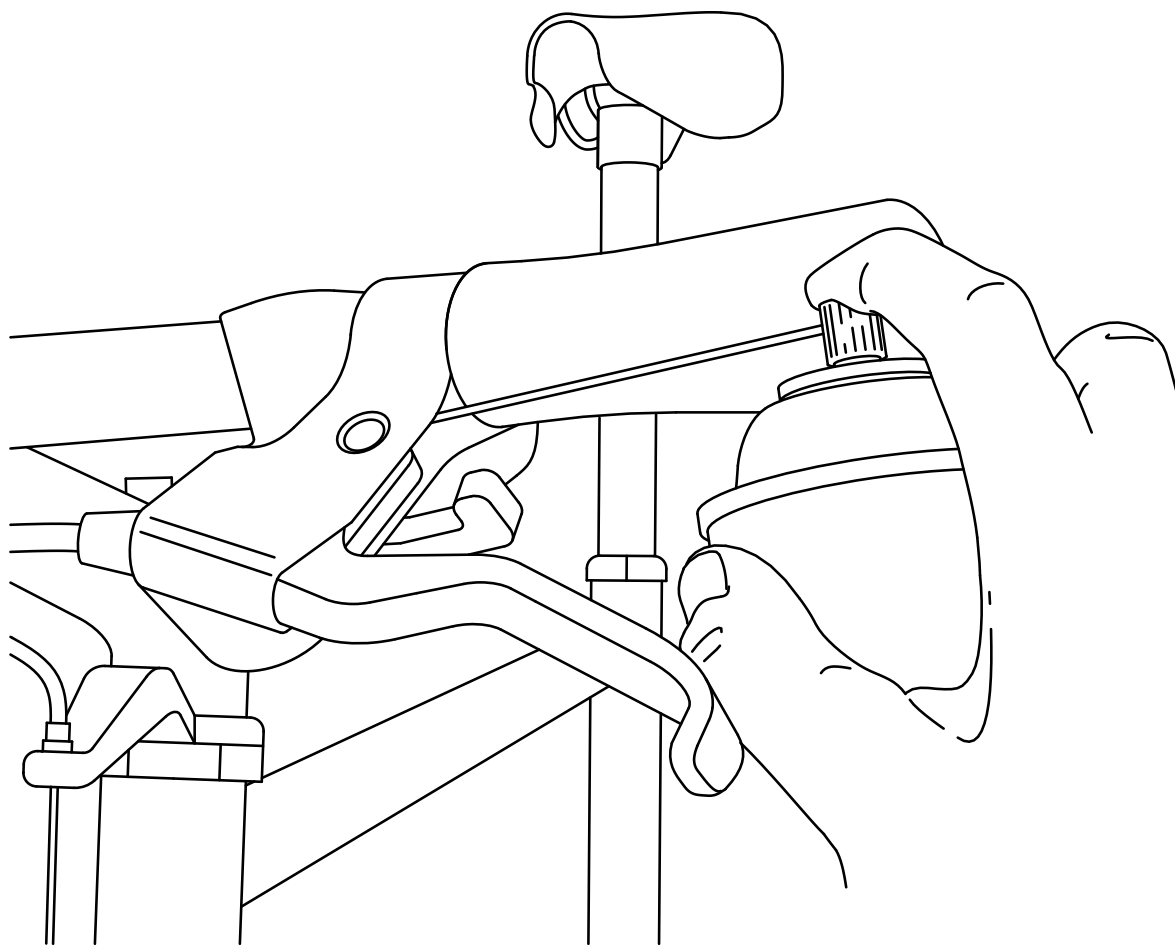
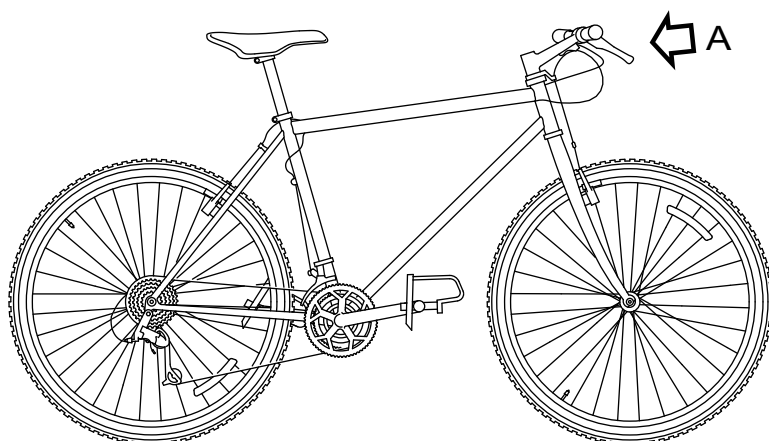
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Fig 1 Derailleur pivots



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Fig 2 Derailleur tension



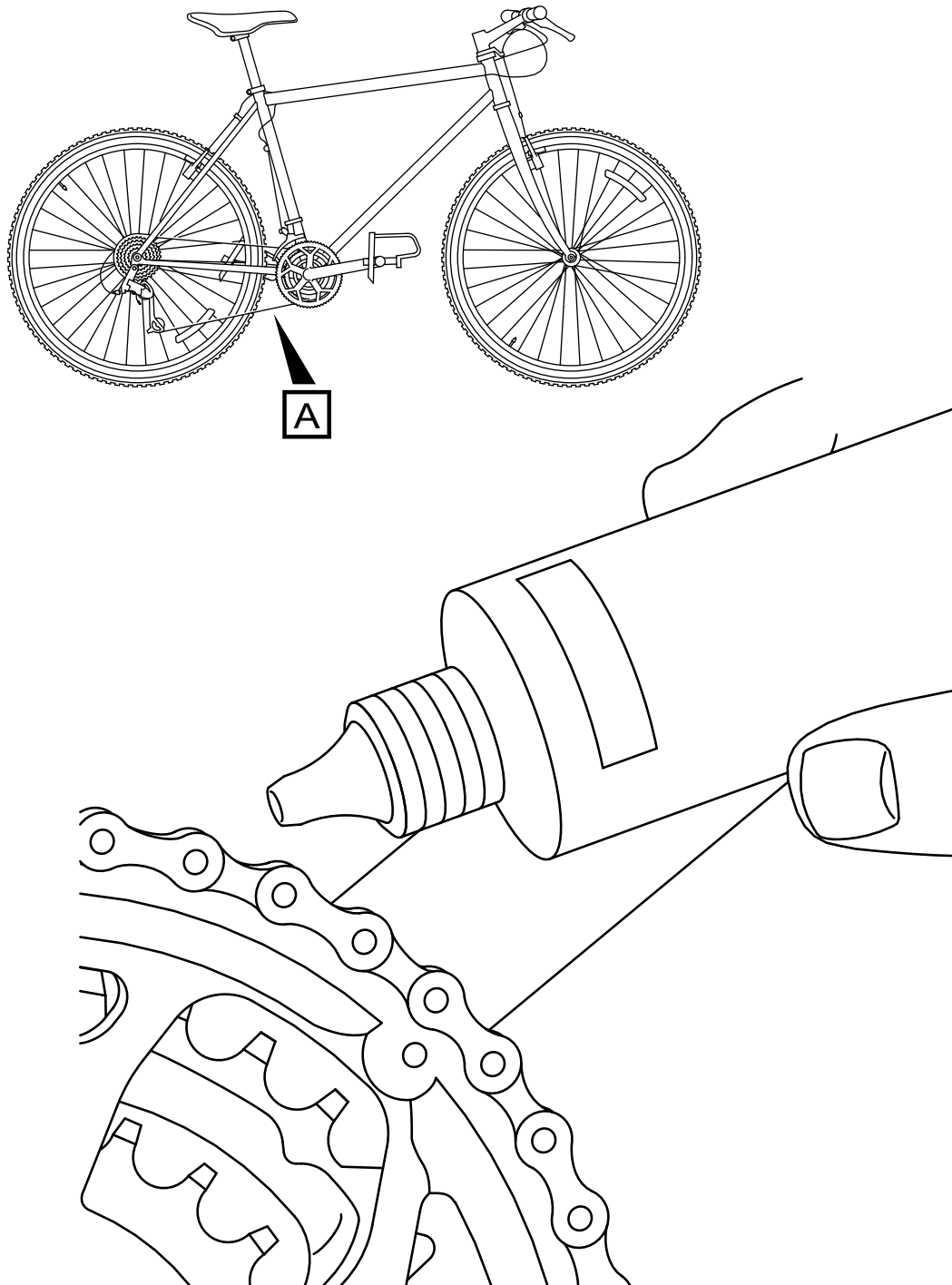
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Fig 3 Brake lever pivots

- 7 Lubricate the chain.
 - 7.1 Make sure the chain is clean and dry.
 - 7.2 Put the [Floor covering Table 2 \[2\]](#) on the floor below the chain.
 - 7.3 Use a [Dry lube Table 1 \[2\]](#) for dry conditions.

- 7.4 Use a [Wet lube Table 1 \[1\]](#) for wet conditions
- 7.5 Apply the lubricant to each roller of the chain (refer to [Fig 4](#)) but only apply a small quantity.

**A**

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Fig 4 Lubricate the chain

- 7.6 Hold the nozzle of the container above the front of the chain ring and slowly turn the cranks rearwards.

CAUTION

Do not get lubrication oil into the brake system. Oil in the break system can affect the efficiency of the bake system. Do not get oil onto the floor where it can easily get transferred onto the brake system.

- 7.7 Let the lubricant soak into chain before you clean the unwanted lubricant from the chain.
- 8 Do a check of the rear wheel rim and clean the unwanted lubricant if necessary.
- 9 Do a check of the chain to make sure that each link is lubricated. If there are links that do not move easily or have become frozen, lubricate the chain again (refer to [Step 2](#)).
- 10 Do a check of the remaining lubricated parts and clean the unwanted lubricant with a [Clean dry cloth Table 2 \[1\]](#).

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Chain - Clean with chain cleaning fluid

Preliminary requirements

- 11 To perform the Chain - Clean with chain cleaning fluid, proceed as follows:

Procedure

- 12 Inspect the chain.
- 13 Do the inspection of the chain as given in the pre-ride checks (refer to [Chap 2 Bicycle - Pre-operation procedures \(crew\)](#)).
- 14 Prepare the cleaning area.
- 14.1 Put the [Floor covering Table 1 \[3\]](#) on a satisfactory floor area.
- 14.2 Put the bicycle on the floor covering.
- 15 Clean debris from the chain.
- 15.1 Use the [Stiff bristle brush Table 2 \[3\]](#) and loosen as much unwanted material as possible.
- 15.2 Make sure that you remove all the unwanted material from the chain.
- 16 Clean the chain.
- 16.1 Open the [Chain cleaning tool Table 2 \[5\]](#) and fill with the [Chain cleaning fluid Table 2 \[4\]](#).
- 16.2 Move the chain to the middle chainring and the middle sprocket at the rear.
- 16.3 Put the chain in the chain guides of the chain cleaning tool and lock the tool on the chain.
- 16.4 Hold the tool with the left hand and slowly turn the rearwards with the right hand.
- 16.5 Press the button on the cleaning tool to make sure that cleaning fluid flows until the tool is empty.
- 16.6 If necessary, remove the unwanted chain cleaning fluid.
- 17 Lubricate the chain.
- 17.1 Use the [General lubricant Table 1 \[4\]](#) and lubricate the chain.
- 17.2 Unlock and remove the cleaning tool.
- 17.3 If necessary, remove the unwanted lubricant.

Requirements after job completion

- 18 To complete the Chain - Clean with chain cleaning fluid, proceed as follows:
 - 18.1 Move the bicycle to its storage area and remove the floor covering.

CHAPTER 3-6

Gears

CONTENTS

Para

- Shifters - Description of how it is made
- 1 Shifters
- 3 How a thumb shifter is made up
- 5 Support and test equipment
- 6 Consumables, materials and expendables
- Gears - Description of how it is made
- 7 Gears
- Mechs - Description of how it is made
- 15 Derailleur
 - 15.1 Front derailleur
 - 15.5 Rear derailleur
- Hubs - Clean with degreasing agent
- 16 Preliminary requirements
- 18 Procedure (CAUTION)

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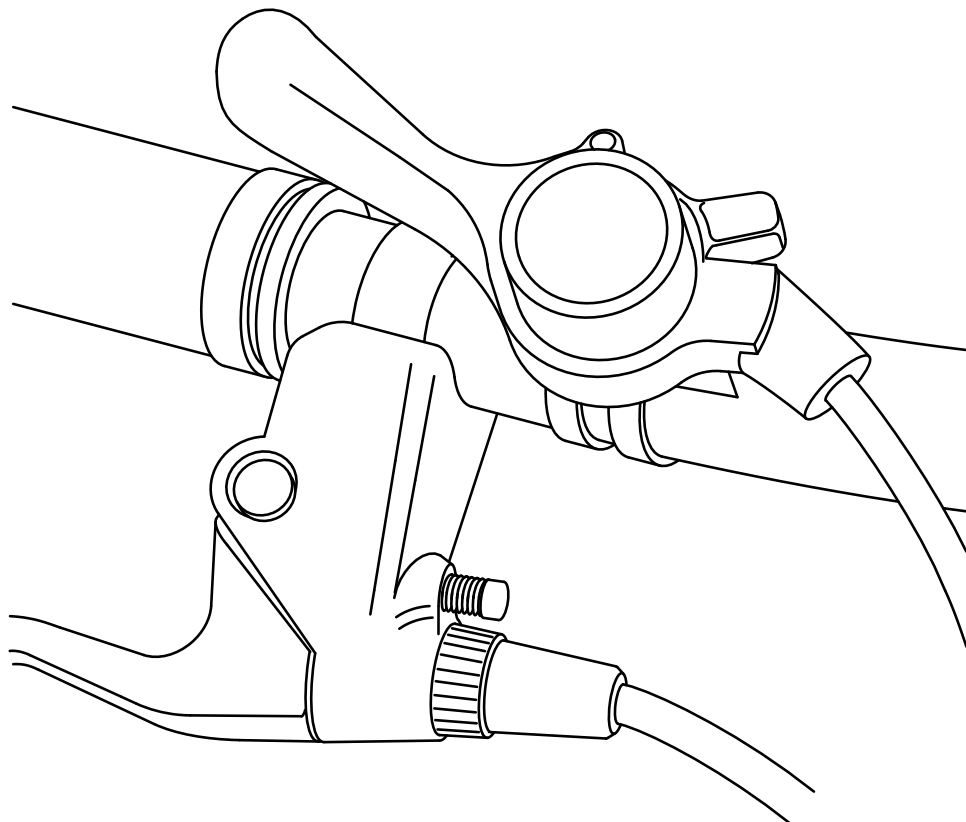
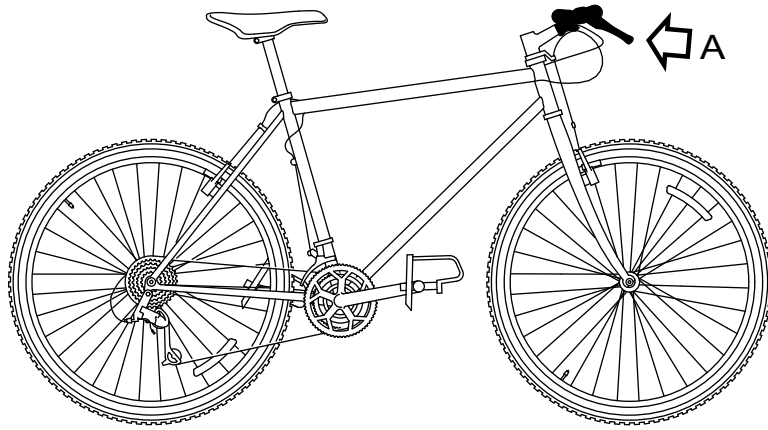
- 1 Thumb shifter index type..... 3
- 2 Unscrew wingnut..... 4
- 3 Loosen the nut..... 5
- 4 Loosen the shifter clamp bolt..... 6
- 5 Front derailleur..... 9
- 6 Rear derailleur..... 10
- 7 Removing the axle..... 12

S1000DBIKE-AAA-DA5-30-00-00AA-041A-A**Shifters - Description of how it is made****Shifters**

1 The thumb shifter is a usual type in modern bicycles. It is possible to adjust this type of shifter for operation in the index position or in the friction position. The differences between the two are:

- The index shifters change the gears with a click of a lever.
- The friction shifters hold the derailleur in its position by friction.

2 The thumb shifters (refer to [Fig 1](#)) are held on the bicycle with a screw. The paragraph that follows gives a description of a thumb shifter.

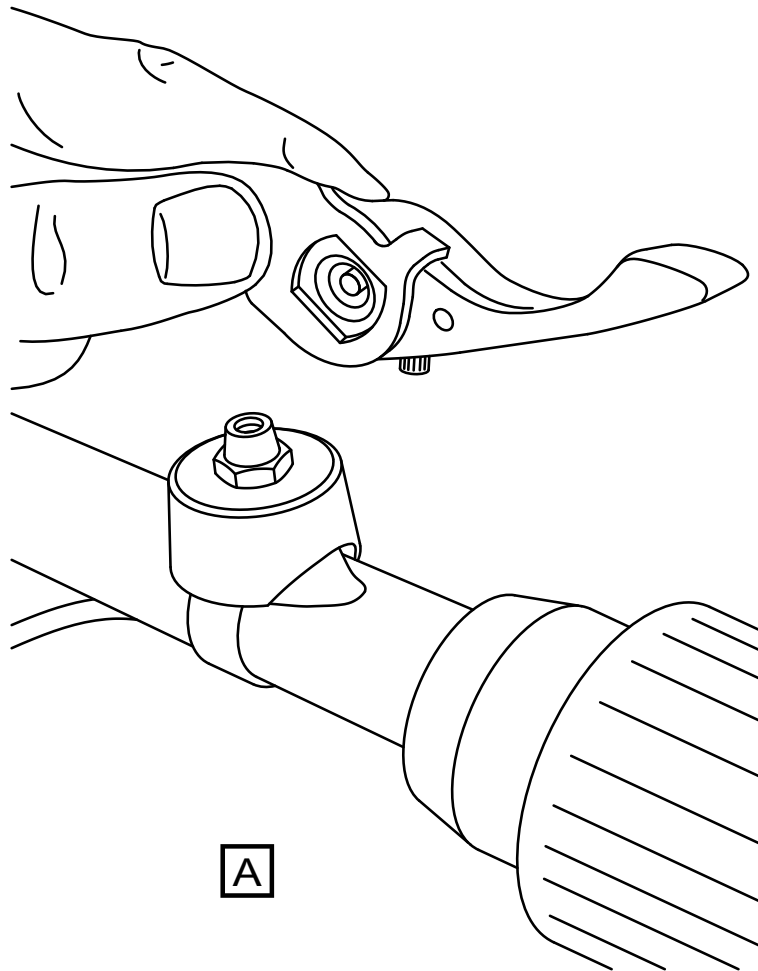
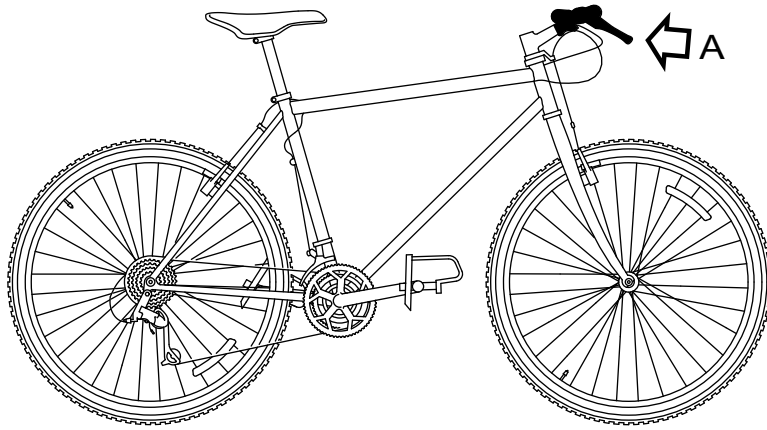


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Fig 1 Thumb shifter index type

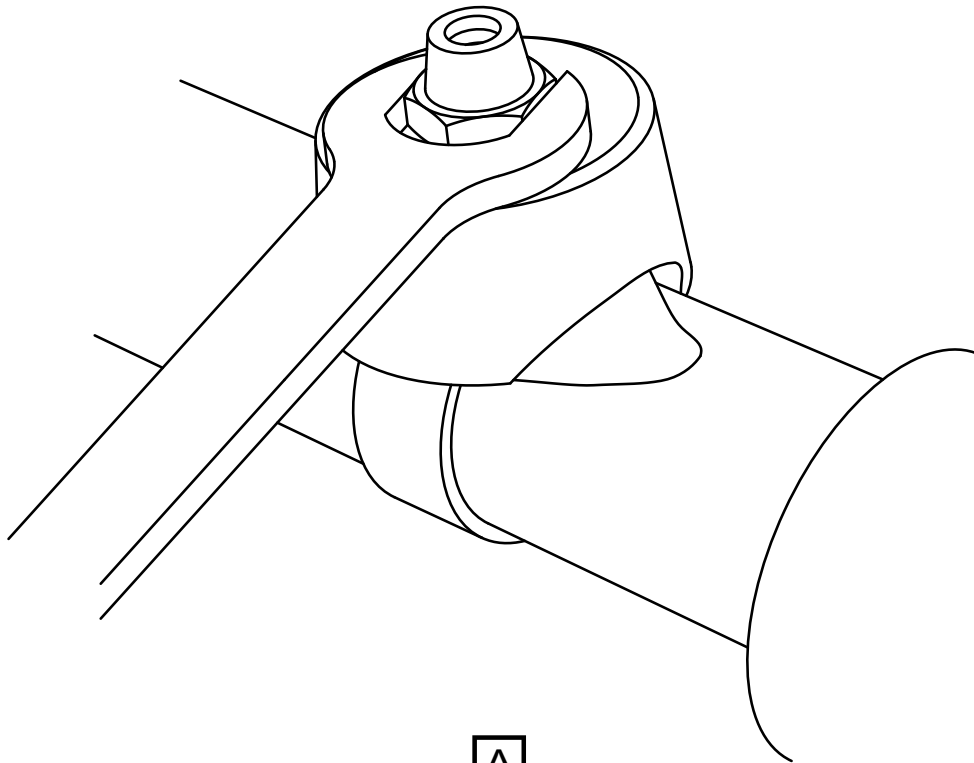
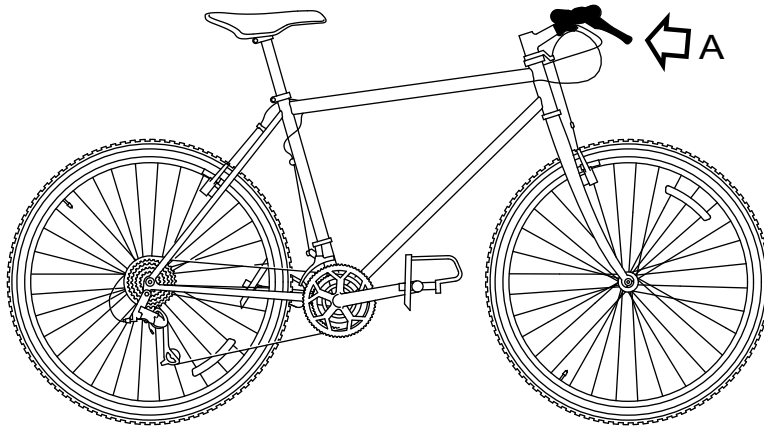
How a thumb shifter is made up

3 A wing nut (refer to [Fig 2](#)) from the top of the lever holds the thumb shifter. The lever is on top of the mount and the mount is on the handle bar with a nut. To remove the mount, it is necessary to loosen the nut of two turns (refer to [Fig 3](#)), then the mount can move from the handle bar from the top of the lever. The lever sits on top of the mount and the mount is fixed into place on the handle bar by a nut.



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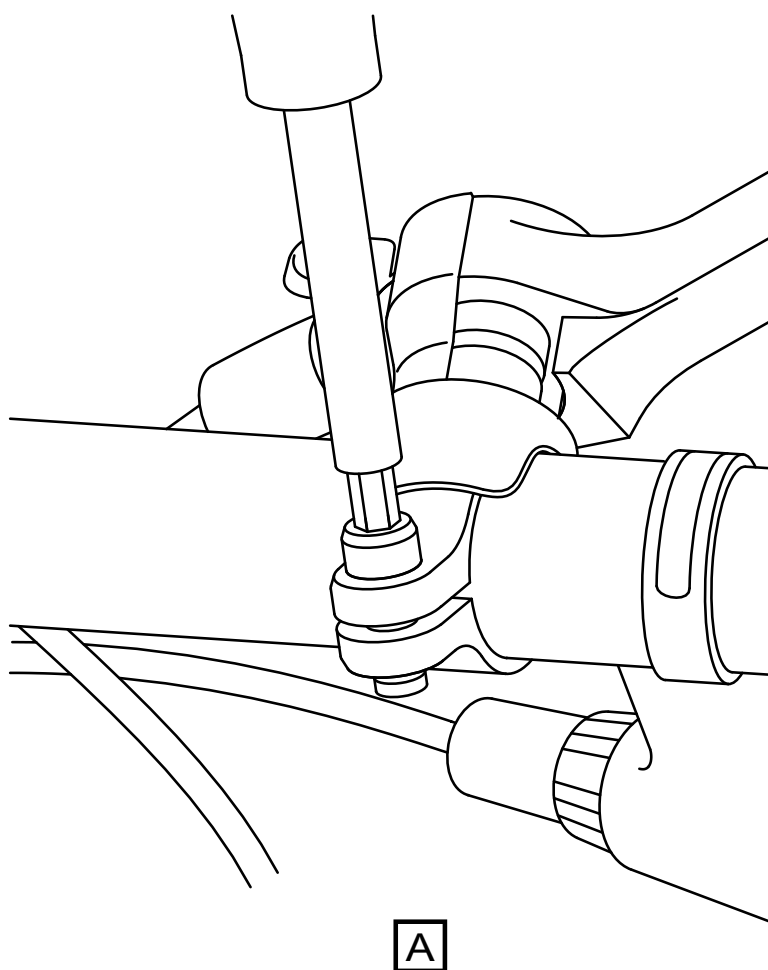
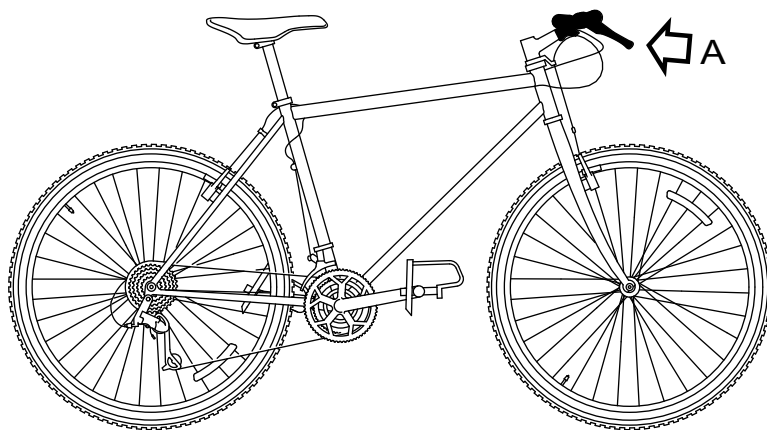
Fig 2 Unscrew wingnut



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Fig 3 Loosen the nut

4 On modern models of this shifter, there is a clamp bolt that holds the shifter in its position (refer to [Fig 4](#)). The user can loosen the clamp bolt with an applicable tool. This lets the shifter release the handlebar.



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Fig 4 Loosen the shifter clamp bolt

Support and test equipment

5 The Support and Test Equipment (S&TE) required to carry out the repairs detailed in this Chapter are listed in (Table 1).

Table 1 Support equipment

Fig. No. Item No.	Army		Item description and annotation	No Off D of Q	Remarks
	DMC NSCM	NSN Part Number			
(1)	(2)	(3)	(4)	(5)	(6)
1	KZ666	BSK-TLST-001	Specialist toolset	1	

Consumables, materials and expendables

6 The consumables, materials and expendables required to carry out the repairs detailed in this Chapter are listed in (Table 2).

Table 2 Consumables, materials and expendables

Fig. No. Item No.	Army		Item description and annotation	No Off D of Q	Remarks
	DMC NSCM	NSN Part Number			
(1)	(2)	(3)	(4)	(5)	(6)
1	KZ222	LL-004	Degreasing agent	As required	
2	KZ222	LL-005	General grease	As required	

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Gears - Description of how it is made

Gears

- 7 The gears include the mechanism, the hubs and the shifters.
- 8 The description of the mechanisms is given in [Mechs - Description of how it is made.](#)
- 9 The description of the shifters is given in [Shifters - Description of how it is made.](#)
- 10 The bicycles of these days can have 27 gears or more. The mountain bikes use a set that includes:
 - Three socket sprockets of different dimension on the front
 - Nine socket sprockets of different dimensions at the rear
- 11 This set gives the gear ratios.
- 12 The shifters installed on the handlebars change the gears and operate the mechanisms (also known as derailleurs). These derailleurs are cable-actuated mechanisms. They move the chain from the different sprockets.
- 13 The hub is the center of the wheel and contains the axle and bearings.
- 14 The gears let the rider crank at the pedals at a constant movement on slopes of different angles.

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Mechs - Description of how it is made**Derailleur**

15 There are two different types of derailleur, the front and the rear.

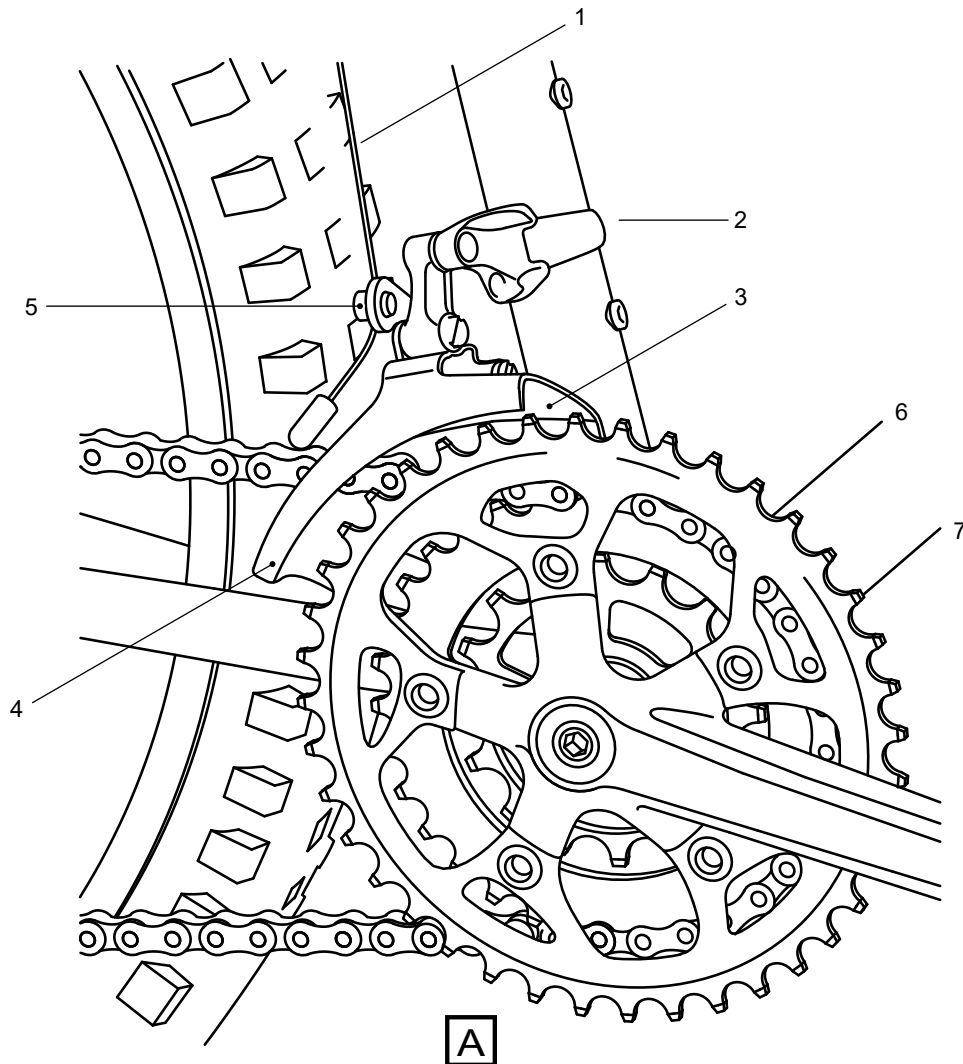
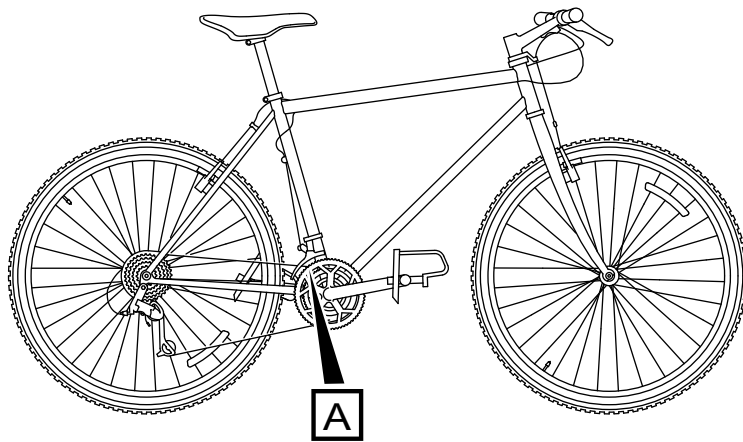
Front derailleur

15.1 The front derailleur (refer to [Fig 5](#)) contains two types of screws to keep the movement of the derailleur to a minimum. These screws are:

the stop screw low-gear

the stop screw high-gear

15.2 The function of these screws is to prevent the rider from over shifting . If this occurs, the chain will go out of the chain wheel.



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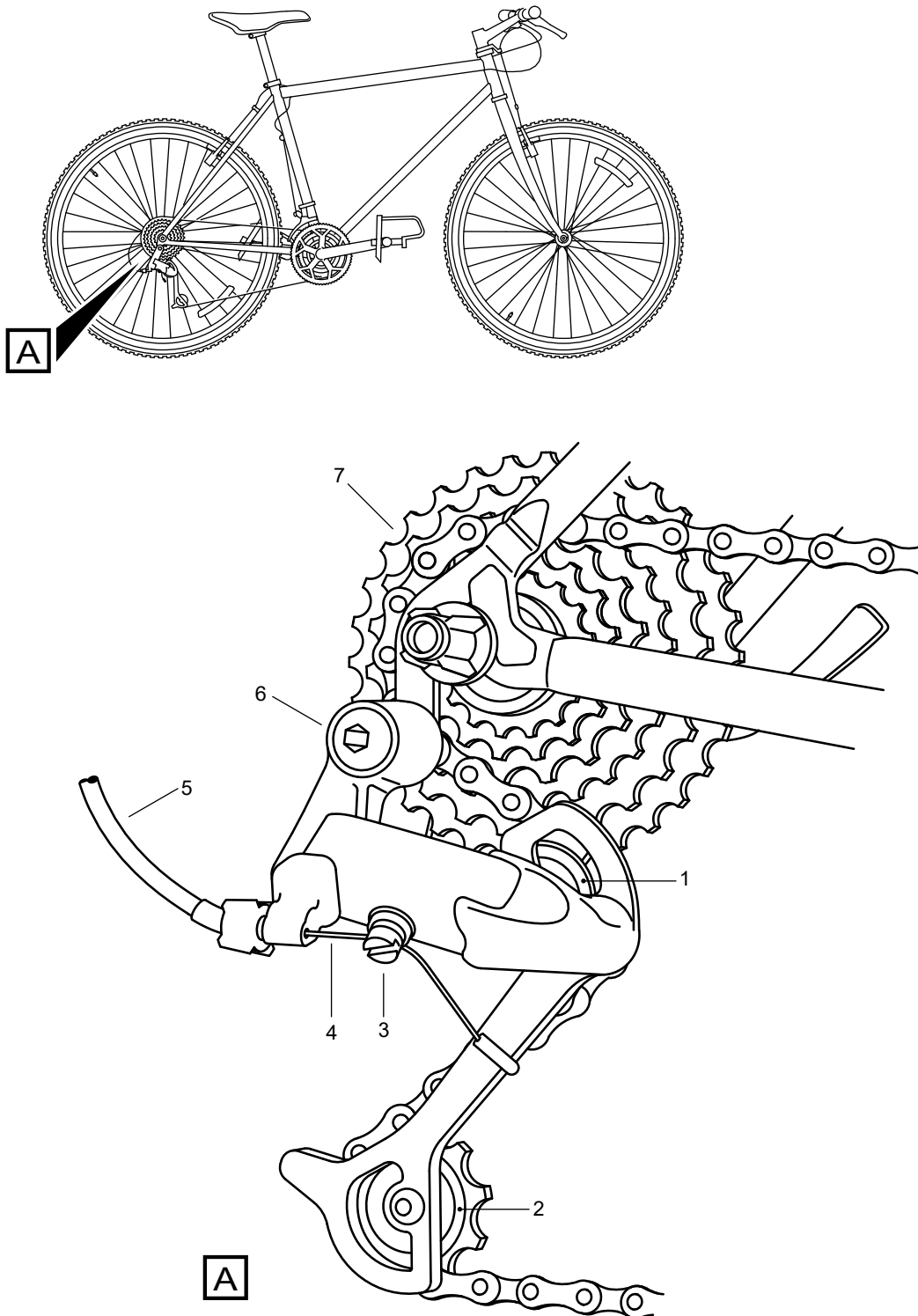
Fig 5 Front derailleur

15.3 The derailleur is installed on the bicycle seat tube with a clamp and is parallel to the three front sprockets.

15.4 The shift cable is connected between the shifters on the handle bars and the cable clamp bolt on the front derailleur. This operates the derailleur. On the sprockets there is an inner and outer cage. The clamp attaches the cage.

Rear derailleur

15.5 The rear derailleur (refer to Fig 6) section contains the sprockets for the different gear changes. When the cable clamp bolt is tight, it holds the shift cable in its position. A screwed bolt holds the tension wheel.



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Fig 6 Rear derailleur

15.6 The derailleur mounting bolt connects the derailleur to the frame. When the user attaches this bolt, this makes sure that the cage plates are parallel with the chain rings.

15.7 The guide wheel has the function to move the chain with the derailleur. It moves the chain from one sprocket to the other. The guide wheel must not move on its axis. If this occurs, there will be wear on the wheel. The position of the guide wheel is below the largest sprocket.

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Hubs - Clean with degreasing agent

Preliminary requirements

16 To perform the Hubs - Clean with degreasing agent, noting the CAUTION, proceed as follows:

16.1 Rear wheel removed Refer to [Chap 3-1 Rear wheel - Remove procedures](#).

17 This task will require the assistance of up to two personnel (1 - Supervisor, 1 - Basic user) to perform the task correctly and safely.

Procedure

18 Remove the axle.

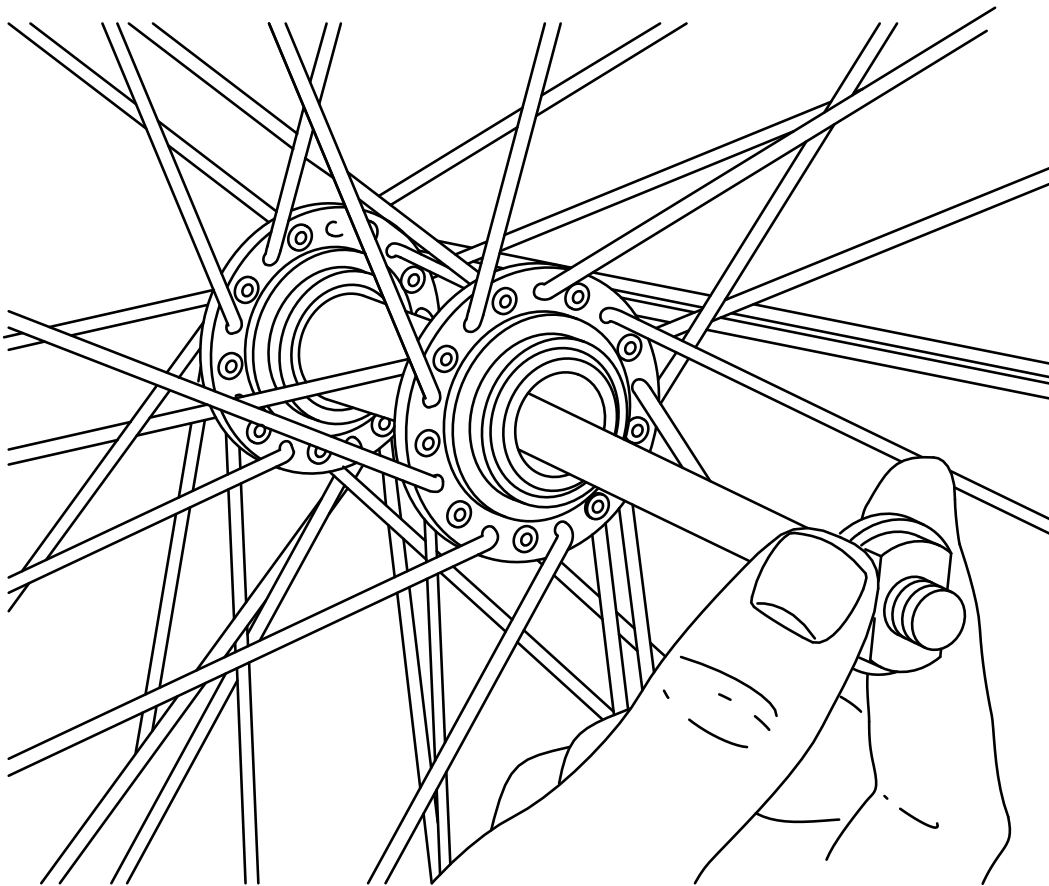
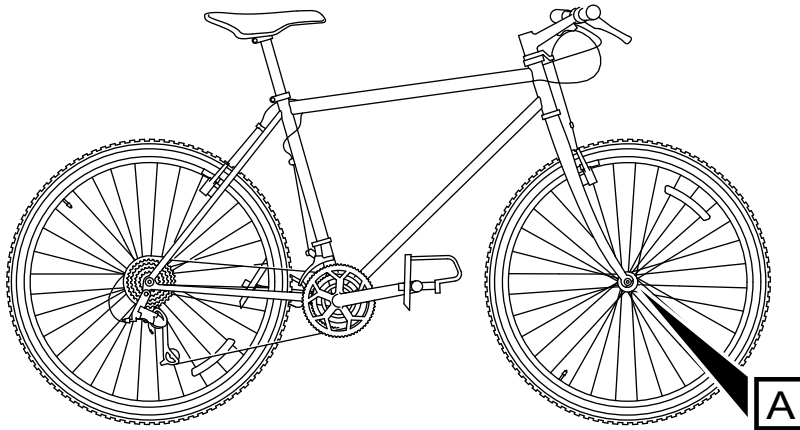
18.1 Use the cone-wrench from the [Specialist toolset Table 1 \[1\]](#) and remove the locknut from one side of the axle.

18.2 Remove the washer and the cone from the axle.

CAUTION

Make sure you do not lose the bearings from the hub. Be prepared to catch the bearings if they fall out. Missing bearings can cause damage to the hub.

18.3 Pull the axle out from the other side as shown in [Fig 7](#) .

**A**

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Fig 7 Removing the axle

19 Remove the bearings.

19.1 Use a small screwdriver from the [Specialist toolset Table 1 \[1\]](#) and remove the bearings from their races.

19.2 Make sure that each side of the hub has the same number of bearings.

19.3 Use the [Degreasing agent Table 2 \[1\]](#) and clean all the parts of the hub.

- 19.4 Do a check of the axle to make sure that it is straight.
- 19.5 Examine the bearing contact area on the cones and the races in the hub for pitting and other signs of damage.
- 19.6 Do a check of the ball bearings for signs of damage.
- 19.7 Apply a large quantity of [General grease Table 2 \[2\]](#) on each hub race.
- 20 Assemble the hub.
 - 20.1 Install the ball bearings into the races and push them into the grease.
 - 20.2 Apply more grease on the tops of the bearings.
 - 20.3 Install the axle through the hub.
 - 20.4 Install the cone, the washer and the locknut on the other side of the axle.
 - 20.5 Use the cone-wrench from the specialist toolset and carefully tighten the locknut.

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CHAPTER 4

Lighting & wiring

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- 1 Support and test equipment
 - Wiring data - Field description
 - Electrical system - Description of how it is made and its function
- 2 Lighting system
 - Wiring - Equipment lists
 - Wiring - Wire list
 - Wiring - Loom list
 - Lights - Manual test
- 3 Preliminary requirements
- 4 Procedure
 - Lights - Observed fault
 - Lighting - Assemble, install and connect procedures
- 6 Preliminary requirements
- 7 Procedure
 - Lighting - Remove and install a new item
- 14 Preliminary requirements
- 15 Procedure
- 21 Requirements after job completion

Table

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- 1 Lighting system..... 2

Support and test equipment

1 The Support and Test Equipment (S&TE) required to carry out the repairs detailed in this Chapter are listed in (Table 1).

Table 1 Support equipment

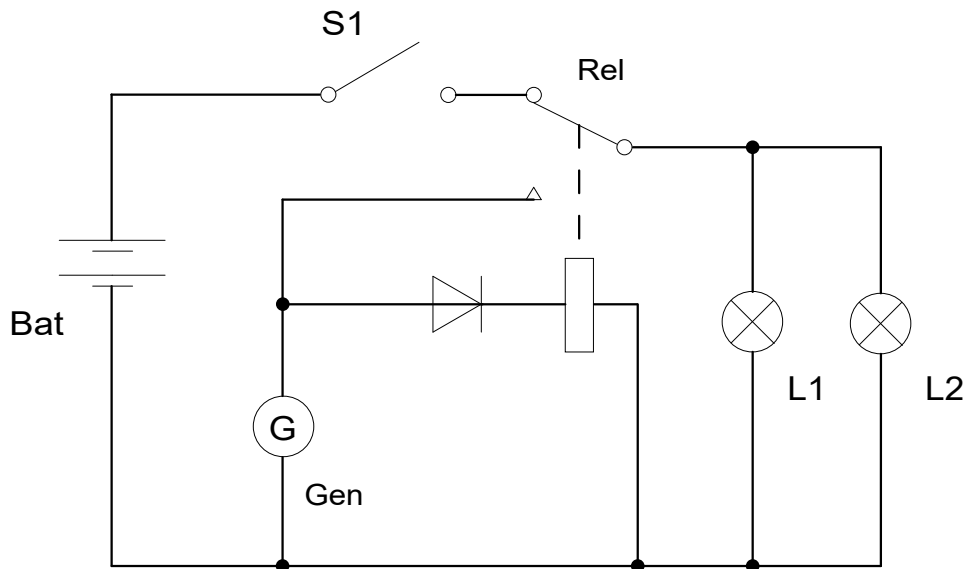
Fig. No. Item No.	Army		Item description and annotation	No Off D of Q	Remarks
	DMC NSCM	NSN Part Number			
(1)	(2)	(3)	(4)	(5)	(6)
1	KZ666	BSK-TLST-001	Specialist toolset	1	

S1000DLIGHTING-AAA-D00-00-00-00AA-029A-A**Wiring data - Field description**

Wire number The wire number is the unique identifier for all electrical wires installed on the bicycle. Wire type Wire type identifies the electrical wire in coded form, eg AP. Wire gauge Wire gauge identifies the gauge of the wire in coded form, eg. 010. Harness ident Harness ident identifies the harness in which the wire is pre-assembled. Length Length identifies the length of the wire. The given value is approximately 10% higher than necessary to install the wire on the bicycle. Color Color identifies the color of the wire sheathing. Twisting Twisting identifies wires, which are twisted together with a unique identifier. Electric ident Electric ident shows the electrical identification, to which the wire is connected. It is available for all electrical equipment, eg L1. Contact Contact identifies the electrical contact to which the wire is connected. Screens Screens identifies all screens that shield the wire. Wires shielded by the same screen are identified by the same screens value. Responsible partner company The responsible partner company indicates the company responsible for the integration of the wire to the bicycle. Harness ident Harness ident identifies pre-assembled wires, which are installed on the bicycle. Harness Part number Harness part number gives the part number of the harness identified by the harness ident. Harness variant Harness variant identifies the variant of the harness in addition to the harness part number. Harness issue Harness issue identifies the production variant of the harness in addition to the harness part number. Responsible partner company The responsible partner company indicates the company responsible for the integration of the harness to the bicycle. Electric ident Electric ident shows the electrical identification, which is available for all electrical equipment, eg L1. Part identification Part identification shows the part number of the equipment. In most cases the part number is identical to the part description. Location Location shows the installation position of the equipment on the bicycle. Responsible partner company The responsible partner company indicates the company responsible for the integration of the equipment to the bicycle.

S1000DLIGHTING-AAA-D00-00-00-00AA-040A-A**Electrical system - Description of how it is made and its function****Lighting system**

2 The illustration that follows (see [Fig 1](#)) shows the lighting system of the bicycle.



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Fig 1 Lighting system

S1000DLIGHTING-AAA-D00-00-00-00AA-056A-A

Wiring - Equipment lists

L1 Front light Handle bars 16 U8025 Mountain bicycle L2 Rear light Seat post 16 U8025 Mountain bicycle Batt Battery Frame 16 U8025 Mountain bicycle Gen Generator Steering tube 16 U8025 Mountain bicycle Rel Relay Frame 10 U8025 Mountain bicycle VV1 Distribution module Frame 07 U8025 Mountain bicycle S1 Switch Handle bars 15 U8025 Mountain bicycle C_Batt Connector Frame C_Bike 3 U8025 Mountain bicycle C_Bike Receptacle Frame C_Batt 3 U8025 Mountain bicycle Diode Diode Frame 18 U8025 Mountain bicycle Sensor Speed sensor Steering tube 16 U8025 Mountain bicycle T01 Tachometer Handle bars 16 U8025 Mountain bicycle

S1000DLIGHTING-AAA-D00-00-00-00AA-057A-A

Wiring - Wire list

FL1AA L1 0000 000 000001 000 01 VV1 0000 000 010101 000 03 AP 010 Lamp1 Lamp1 1000 red U8025 Mountain bicycle FL2AA L1 0000 000 000002 000 01 VV1 0000 000 010102 000 03 AP 010 Lamp1 Lamp1 1000 blue U8025 Mountain bicycle NC1VI VV1 0000 000 010101 003 03 Mountain bicycle RL1AA L2 0000 000 000001 000 01 VV1 0000 000 010101 001 03 AP 010 Lamp2 Lamp2 1500 red U8025 Mountain bicycle RL2AA L2 0000 000 000002 000 01 VV1 0000 000 010102 001 03 AP 010 Lamp2 Lamp2 1500 blue U8025 Mountain bicycle GE2AA Gen 0000 000 000002 001 01 VV1 0000 000 010102 002 03 AP 010 500 U8025 Mountain bicycle BT2AA Batt 0000 000 000002 000 01 C_Batt 0000 000 000002 000 02 AP 010 Batt_01 Batt 400 black U8025 Mountain bicycle GE1AA Gen 0000 000 000001 001 01 Rel 0000 000 010202 000 04 AP 010 500 U8025 Mountain bicycle GE3AA Gen 0000 000 000001 002 01 Diode 0000 000 010101 000 04 AP 010 500 U8025 Mountain bicycle BT1AA Batt 0000 000 000001 000 01 C_Batt 0000 000 000001 000 02 AP 010 Batt_01 Batt 400 red U8025 Mountain bicycle BA1AA C_Bike 0000 000 000001 000 02 S1 0000 000 010101 000 04 AP 010 1200 U8025 Mountain bicycle BA1AB S1 0000 000 010101 001 04 Rel 0000 000 010201 001 04 AP 010 1000 U8025 Mountain bicycle BA2AA C_Bike 0000 000 000002 000 02 VV1 0000 000 010102 003 03 AP 010 200 U8025 Mountain bicycle LL1AA Rel 0000 000 010201 000 04 VV1 0000 000 010101 002 03 AP 010 500 U8025 Mountain bicycle GE4AA Gen 0000 000 000002 002 01 Rel 0000 000 010101 000 04 AP 010 500 U8025 Mountain bicycle GE5AA Diode 0000 000 010101 001 04 Rel 0000 000 010101 001 04 Mountain bicycle T001 T01 0002 000 000001 000 01 00 01 00 Sensor 0002 000 000001 000 01 00 01 00 XY 010 Tacho SCT1 Tacho 1200 yellow U8025 Mountain bicycle T002 T01 0003 000 000002 000 01 00 01 00 Sensor 0003 000 000002 000 01 00 01 00 XY 010 Tacho SCT1 Tacho 1200 green U8025 Mountain bicycle ND1 T01 0001 100 000000 000 01 01 03 01 T01 0001 000 000000 000 01 01 03 01 SCT1 Mountain bicycle ND2 Sensor 0001 100 000000 000 01 01 03 01 Sensor 0001 000 000000 000 01 01 03 01 SCT1 Mountain bicycle

S1000DLIGHTING-AAA-D00-00-00-00AA-058A-A

Wiring - Loom list

Batt_01 Battery_123 123 A U8025 Mountain bicycle Tacho Tachometer_101 101 A U8025 Mountain bicycle Lamp1 Front light_501 501 A U8025 Mountain bicycle Lamp2 Rear light_503 503 A U8025 Mountain bicycle

S1000DLIGHTING-AAA-D00-00-00-00AA-341A-A

Lights - Manual test

Preliminary requirements

3 To perform the Lights - Manual test, proceed as follows:

Procedure

- 4 Set the lights to on.
- 5 Make sure that all the lights operate correctly.

S1000DLIGHTING-AAA-D00-00-00-00AA-413A-A

Lights - Observed fault

Fault reporting

Observed fault

Fault code	Fault description
NYCJD02	The lights are set to the dim position.

Fault context

During use or maintenance

Isolation information**Table 2 Detected line replaceable unit**

Nomenclature	Identification No.
Bulb	KZ111 LiRUs-L1-11

Test procedureTest Description

Test the bulbs

Test parameter: from 1 Days to 1 Days

Test procedure**Table 3 References**

Data Module/Technical Publication	Title
Lights - Manual test	

Repair procedure**Table 4 References**

Data Module/Technical Publication	Title
Lighting - Remove and install a new item	

Remarks

This is the data module you would visit when you notice that the lights do not operate correctly.

S1000DLIGHTING-AAA-D00-00-00-00AA-700A-A**Lighting - Assemble, install and connect procedures****Preliminary requirements**

6 To perform the Lighting - Assemble, install and connect procedures, proceed as follows:

6.1 Bike is stationary

Procedure

- 7 Remove the lighting system from the packaging.
- 8 Make sure that the components in the package are the same as those on the **### Error unable to find target for reference to DMC-S1000DLIGHTING-AAA-D00-00-00-00AA-941A-A ###**.
- 9 Install the light bulb to the front and rear lights (refer to [Lighting - Remove and install a new item](#)).
- 10 Attach the front light fitting on the top of the handlebar.
 - 10.1 Apply the protective strip around the handlebar.
 - 10.2 Pull the clamp open and put it around the protective strip with the light connector at the top.
 - 10.3 Install the washer on the screw.
 - 10.4 Use the correct screwdriver from the [Specialist toolset Table 1 \[1\]](#) and tighten the screw into the hole at the bottom of the clamp. This safeties the clamp to the handlebar.
- 11 Attach the rear light fitting to the rear triangle of the bike frame.
 - 11.1 Apply the protective strip around one of the two rear triangle up-tubes.
 - 11.2 Pull the clamp open and put it around the protective strip. Make sure the light connector points rearwards.
 - 11.3 Install the washer on the screw.
 - 11.4 Use the correct screwdriver from the [Specialist toolset Table 1 \[1\]](#) and tighten the screw into the hole at the bottom of the clamp. This safeties the clamp to the tube.
- 12 Attach the light with the white glass to the front connector.
- 13 Attach the light with the red glass to the rear connector.

S1000DLIGHTING-AAA-D00-00-00-00AA-921A-A

Lighting - Remove and install a new item

Preliminary requirements

- 14 To perform the Lighting - Remove and install a new item, noting the WARNING and CAUTION, proceed as follows:

WARNING

MAKE SURE THAT THE BULB IS COOL BEFORE YOU REPLACE IT.

CAUTION

Do not touch the glass of the Bulb .

- 14.1 Light set to off
- 14.2 Light removed from bicycle

Procedure

- 15 Remove the glass.
- 16 Remove the used Bulb .
- 17 Discard the used Bulb .
- 18 Remove the new Bulb from the packaging.
- 19 Install the new Bulb .

20 Install the glass on the light.

Requirements after job completion

21 To complete the Lighting - Remove and install a new item, proceed as follows:

21.1 Attach the light to the bicycle if necessary.

CHAPTER 5

Illustrated parts

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Bicycle - Illustrated Parts Data - IPD
Light system - Illustrated Parts Data - IPD

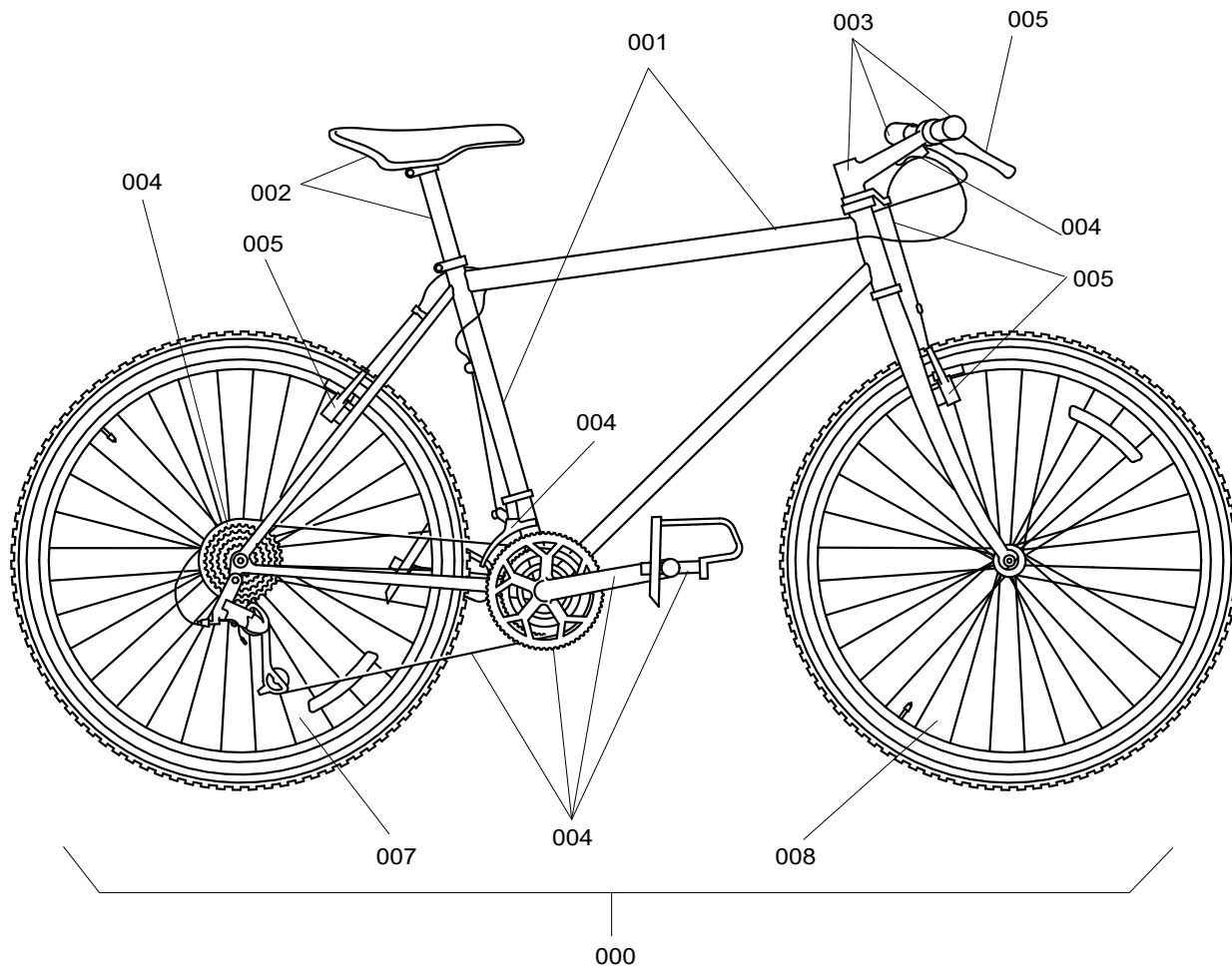
Fig

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Bicycle - Illustrated Parts Data - IPD



ICN-S1000DBIKE-AAA-D000000-0-U8025-00536-B-04-1
Fig 1 Bicycle

Parts list

Fig 1 Item	DMC Army	NATO stock number	Item Name	Part No./ Dwg No.	No. off	Annotation (NSCM)
		NP	Bicycle	BICYCLE-001	REF	(KZ999)
1		NP	• Frame assembly	BICYCLE-001/1	1	(KZ999)
2		NP	•• Seat, assembly	BICYCLE-001/2A	1	(KZ999)
2		NP	•• Cruiser Seat, assembly	BICYCLE-001/2B	1	(KZ999)
3		NP	•• Steering system	BICYCLE-001/3	1	(KZ999)
4		NP	•• Drive train system	BICYCLE-001/4	1	(KZ999)
5		NP	•• Brake sub-system	BICYCLE-001/5	1	(KZ999)
6		NP	•• Light system	LRU1001	1	(KZ777)
7		NP	•• Wheel, assembly rear	WH-001	1	(KZ888)
8		NP	•• Wheel, assembly front	WH-002	1	(KZ888)
9		NP	•• Computer	CP-001	1	(KZ888)

Parts list

Fig 2 Item	DMC Army	NATO stock number	Item Name	Part No./ Dwg No.	No. off	Annotation (NSCM)
		NP	Light system	LRU1001	REF	(KZ777)
1		NP	• Light, sub-assembly front	LRU1010	1	(KZ777)
2		NP	•• Light, main body	LRU1011	1	(KZ777)
3		NP	••• Light, base	LRU1012	1	(KZ777)
4		NP	•••• Seal	LRU1013	1	(KZ777)
5		NP	••• Battery	LIRUS-L1-10	2	(KZ777)
6		NP	•• Lens, assembly	LRU1018	1	(KZ777)
7		NP	••• Lens sub-assembly	LRU1019	1	(KZ777)
8		NP	•••• Seal	LRU1022	1	(KZ777)
9		NP	••• Reflector	LRU1020	1	(KZ777)
10		NP	•••• Bulb	LIRUS-L1-11	2	(KZ777)
11		NP	•• Loom wiring	LRU1026	1	(KZ777)
12		NP	• Bracket, light mounting	LRU-B001	1	(KZ777)
13		NP	•• Clip	LRU-B003	1	(KZ777)
14		NP	* * Screw, special	LRU-B124	1	(KZ777)
15		NP	* * Washer, flat	LRU-B556	1	(KZ777)
16		NP	••• Grip, strip	LRU-B789	1	(KZ777)
17		NP	• Light, sub assembly rear	LRU2010	1	(KZ777)
18		NP	•• Light, main body	LRU1011	1	(KZ777)
19		NP	•• Lens, assembly rear	LRU2018	1	(KZ777)

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