

SRAM S7 TECHNICAL DATA / ASSEMBLY REQUIREMENTS

57

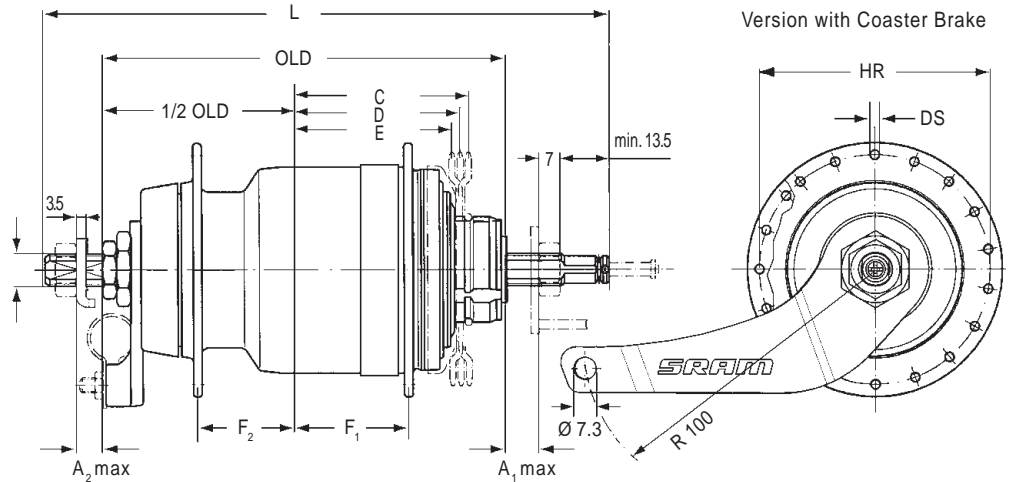
i-BRAKE for SRAM S7:
see page 94.

Caution:

- Not suitable for tandems, transport bicycles and similar.
- SRAM S7 with coaster brake resp. i-BRAKE are „DIN Plus City“ certified.

Cycle frame:

- Dropouts must be parallel.
- Slot width at rear dropout 10^{+0.5} mm.
- The strength must be such that with a maximum braking torque of 250 Nm (2200 in.lbs.) on the rear wheel no residual deformation can occur on the rear structure.



HUBS

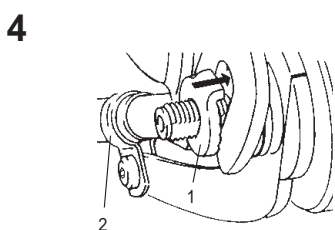
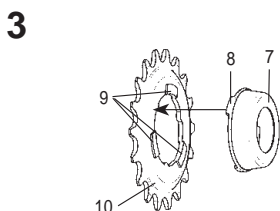
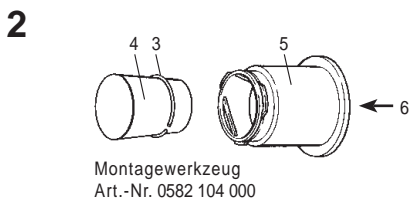
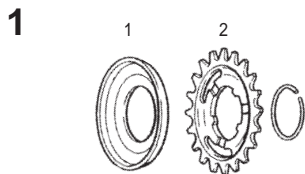
		SRAM S7 with coaster brake	SRAM S7 i-BRAKE compatible	SRAM S7 with drum brake	SRAM S7 without brake
Type	Type	MH 7215	—	MH 7225	MH 7205
	Brake	Coaster	Adaptor for i-BRAKE (page 94)	Drum „D“ „NL“	without brake
Over Locknut Dim., OLD	Length, L	130 mm	135 mm	135 mm	130 mm
	Ends Diameter, T	FG 10.5	FG 10.5	FG 10.5	FG 10.5
Dropout Width Dim.	Holes	A ₁ max. = 12.5 mm / A ₂ max. = 12 mm	A ₁ max. = 12.5 mm / A ₂ max. = 12.2 mm	A ₁ max. = 12.5 mm / A ₂ max. = 12.2 mm	A ₁ max. = 12.5 mm / A ₂ max. = 10 mm
	Hole Diameter, DS	3.0 mm	3 mm	2.9 mm	3.0 mm
Hole Ref. ø, HR	Hole Ref. ø, HR	75 mm	75 mm	89 mm	75 mm
	Flange Dist. to 1/2 OLD	F ₁ = 33 mm / F ₂ = 34 mm	F ₁ = 35.4 mm / F ₂ = 32.7 mm	F ₁ = 34.8 mm / F ₂ = 35.7 mm	F ₁ = 33 mm / F ₂ = 34 mm
Gear Hub Ratio	Totally	303 %	Gangsprung ←	←	←
	Speed 1	0,574	↓ ←	←	←
	Speed 2	0,677	17 % ←	←	←
	Speed 3	0,809	17 % ←	←	←
	Speed 4	1,000	17 % ←	←	←
	Speed 5	1,236	14 % ←	←	←
	Speed 6	1,476	14 % ←	←	←
	Speed 7	1,742	14 % ←	←	←
Usable Dimensions	Line, C/D/E	1/2" x 1/8" or 1/2" x 3/32"	1/2" x 1/8" or 1/2" x 3/32"	1/2" x 1/8" or 1/2" x 3/32"	1/2" x 1/8" or 1/2" x 3/32"
	Ratio	24", 26", 28" = 1.83 - 1.90 / 20" = 1.83 - 2.00	min. 1.83	←	←
Shifter	Shifter	SRAM Grip 7	←	←	←
	Clickbox	Clickbox S7	←	←	←
Hand Brake Lever	Hand Brake Lever	—	see page 95	see page 63	—
	Tandem	Not suitable for tandems, transport bicycles or similar	←	←	←
Weight	Weight	1714 g	2164 g (total with i-BRAKE)	1737 g	1556 g
	Hub Shell Material	Steel	Steel	Aluminum	Steel
Finish	Finish	Matt Chrome Plated or Black	Matt Chrome Plated	Clear Coat	Matt Chrome Plated or Black

SRAM S7 TECHNICAL DATA / ASSEMBLY REQUIREMENTS

SHIFTERS

SRAM Grip 7	
Shifter Type	Twist Shifter
Cable Length	1450 mm 1550 mm 1650 mm 1750 mm 1850 mm 1950 mm 2050 mm 2150 mm
Gear Indication	Window
Clamping Diameter	22.3 mm
Handlebar, Straight Area	Minimum length for shifter = 150 mm
Weight	89g
Housing	Glass filled PA
Grip	PP
Grip Cover	Thermoplastic elastomer, Overmolded
Clamping Collar	Aluminum

SRAM S7 ASSEMBLY



ASSEMBLY HUB

- Lace the wheel as normal. See spoke length table.
- Place the dust cap (1, **Fig. 1**) and sprocket (2) on the driver.
- Push sprocket circlip (3, **Fig. 2**) onto the cone of tool sleeve (4). Place tool sleeve with large diameter on the driver.
- Push the spring end of sliding sleeve (5) of the tool over the tool sleeve. Thrust sliding sleeve in direction (6), this forces circlip into the recess of the driver.
- Remove tool and check that the circlip is seated correctly.
- Turn dust cap (7, **Fig. 3**) until the three lugs (8) are between the three beads (9) on the sprocket (10).
- Position dust cap and push towards sprocket until it is felt to lock into place.

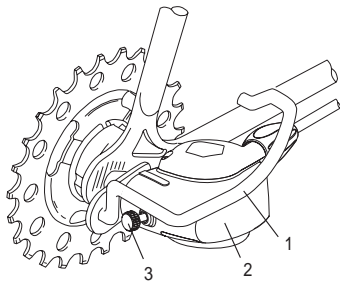
- Placing the wheel in the rear frame.
- Fit new retaining washer (3,5 mm thick) on left axle end (1, **Fig. 4**). The serrations must bear against the dropout and the lug must engage in the dropout slot.
- On the sprocket side fit the protective bracket (1, **Fig. 5**) directly below the axle nut. Tightening torque on axle nuts 30 – 40 Nm (266 – 350 in.lbs.).
- Mount the brake lever using a suitable frame clamp (2, **Fig. 4 resp. Fig. 10**).
Caution:
Mount the brake lever between the two straps of the frame clamp. The clamp must be seated on the frame without play. Use a self-locking nut! Tightening torque: 2 – 3 Nm (18 – 27 in.lbs.).

Spoke length table:

Tire Size	Cross	Length MH 7215/7205	Length MH 7225	
47-406	20" x 1.75 x 2	3 x	181 mm	179 mm
37-490	22" x 1 3/8	3 x	225 mm	222 mm
47-507	24" x 1.75 x 2	3 x	232 mm	229 mm
37-540	24" x 1 3/8	3 x	251 mm	248 mm
47-559	26" x 1.75 x 2	3 x	259 mm	256 mm
37-590	26" x 1 3/8	3 x	275 mm	272 mm
47-622	28" x 1.75	3 x	289 mm	286 mm
37-622	28" x 1 3/8 x 1 5/8	3 x	289 mm	286 mm
28-622	28" x 1 1/8	3 x	289 mm	286 mm
32-622	28" x 1 5/8 x 1 1/4	3 x	289 mm	286 mm
28-630	27" x 1 1/4 fifty	3 x	294 mm	291 mm
32-630	27" x 1 1/4	3 x	294 mm	291 mm

Spoke lengths are approximate values. They must be checked through lacing attempts and adjusted accordingly.

5



Advice:

- If a different protective bracket (1, Fig. 5) is used the thickness of the attachment plate must be max. 3 mm.
- Do not use additional washers.
- At least the beginning of the axle thread must be visible in front of the axle nut.

- Push on Clickbox (2, Fig. 5) to the stop on the hub axle. The guiding rib (4, Fig. 8) of the locating sleeve thereby engages in the slot on the housing. In the end position tighten up the knurled bolt (3, Fig. 5) by hand (0.3 Nm / 2.7 in.lbs.).

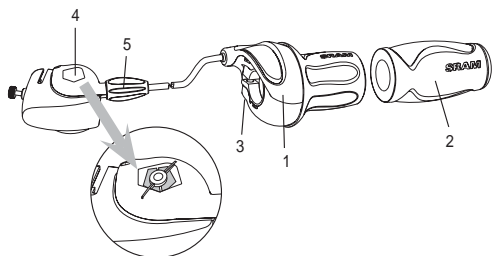
Caution:

Check that all the brake system components are functioning properly!

ADJUSTMENT

- Be sure to reset rotational shifter from 5th to 4th gear.
- Match up the marks in the Clickbox viewing window (4, Fig. 6) by turning the adjusting screw (5).

6



ASSEMBLY SHIFTER

Advice:

- When choosing cable housing lengths, be sure to allow enough housing for an extreme turn of the handlebars in both directions.
- Note also, that different stem lengths and handlebar positions effects cable housing length.
- Slide shifter (1, Fig. 6) onto handlebar.
- Mount fixed grip (2) onto end of handlebar.
- Slide shifter against fixed grip, adjust shifter on handlebar and tighten with bolt (3) with a torque of 1.5 Nm (13 in.lbs.).

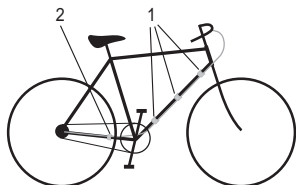
CONNECTING DRUM BRAKE

Caution:

Only use brake levers with a cable moving distance of at least 15 mm and a leverage of "i" = 3.8 – 4.2 (Fig. 9).

- Fit cable stop (1, Fig. 10) with adjusting bolt (2) and nut (3) and insert into the slot on the brake anchor plate.
- Turn adjusting bolt down by approx. $\frac{2}{3}$ and route the brake cable from the brake handle.
- Push lower brake cable end through adjusting bolt (2) and insert lower cable housing end into adjusting bolt.
- Thread brake cable end (4) into fork unit (5).
- Tighten screw (6) slightly.
- Attach fork unit to brake lever (7).
- Pull brake cable end taut with pliers so that fork unit can still be attached and removed (important for changing wheel).
- Tighten screw (6).

7



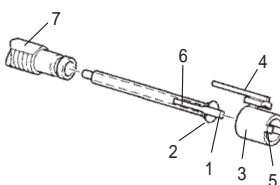
Caution:

- Never use lubricants or solvents to install fixed grips. Fixed grips provide an axial safety function. For this reason, they should be mounted in such a way as to make sure they do not slip off handlebar.
- Check that the shifter and brake lever function properly and are unobstructed (realign if necessary).

Caution:

For NL version drum brake hub with special lever (8), only use original NL brake cable (fork unit (5) is not suitable).

8

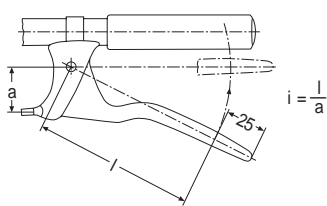


- When fitting the cable avoid small radius. Attach the cable 3 times to the down tube (1, Fig. 7).
- Last attachment point is on the lower rear wheel fork (2, Fig. 7) immediately behind the chain wheel. Cable housing must be movable inside attachment.

ADJUSTMENT DRUM BRAKE

- Unscrew adjusting screw (2, Fig. 10) until the brake pads drag lightly.
- Actuate the hand brake lever forcefully several times and then, if necessary, turn the adjusting screw further in just until the wheel starts spinning freely.
- Lock hex nut (3).

9



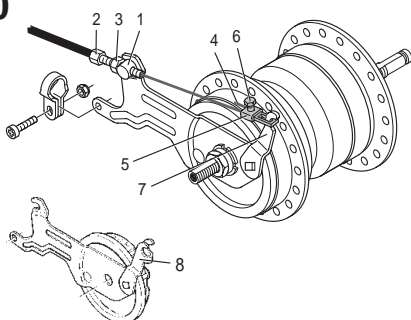
INSTALLING CLICKBOX

- Insert shift rod (1, Fig. 8) in shift tube (2) (oil parts lightly) and then push into axle bore as far as the stop. Turn slot (6) in shift tube to a position where it is easily visible.
- Push locating sleeve (3) with guiding rib (4) to the front onto the hub axle – making sure that the internal lug (5) is guided in the slot (6) of the shift tube until it can be felt – and heard – to engage.
- Turn locating sleeve on the axle until the guiding rib (4) is facing roughly upwards.
- Place shifter in gear position "1".

Caution:

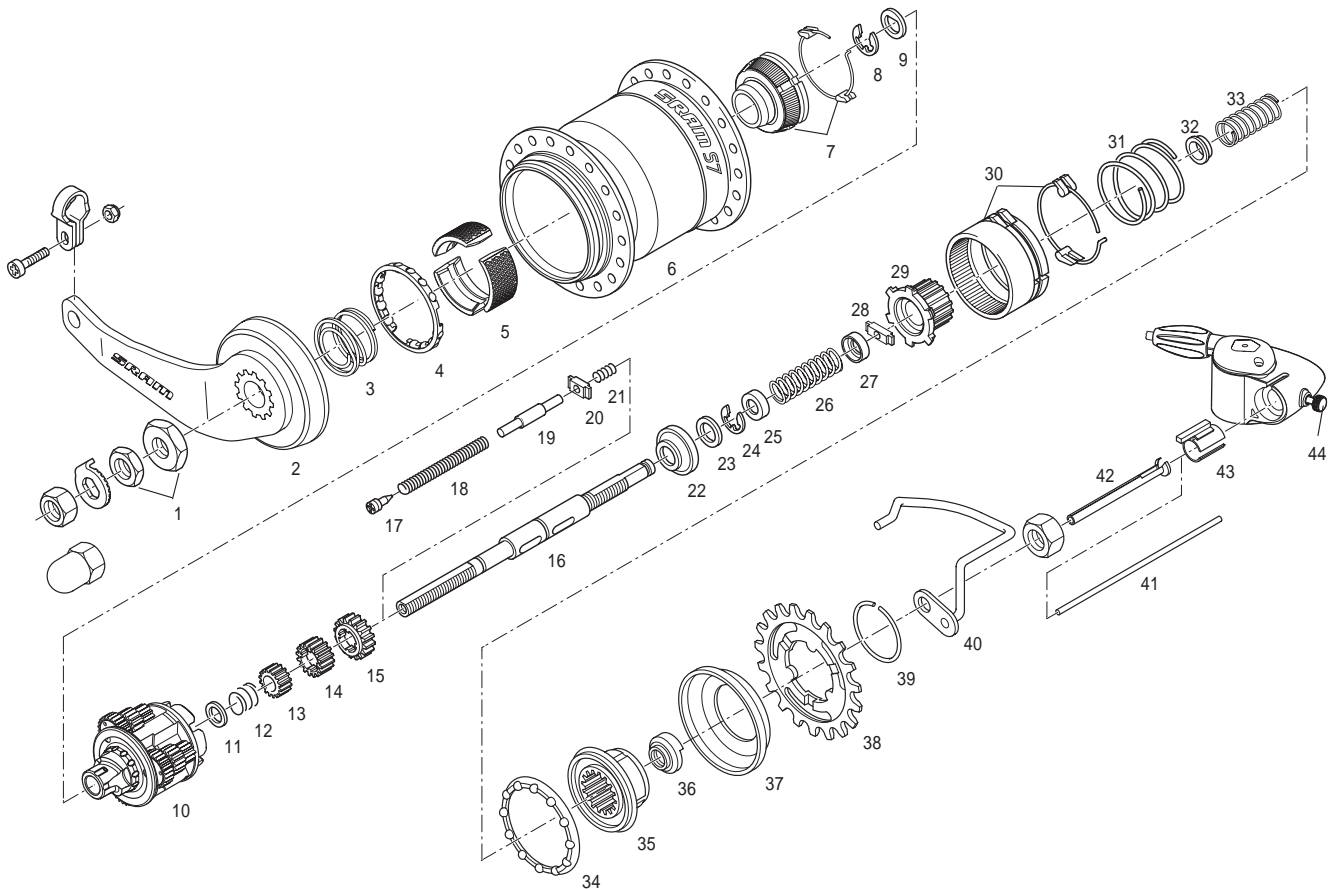
Check that all the brake system components are functioning properly!

10

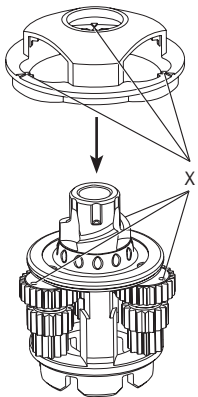


SRAM S7 MAINTENANCE

1

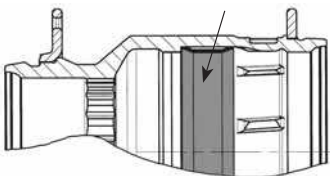


2



SRAM S7 mounting aid
Part No. 65 0324 103 000

3



REMOVE WHEEL

- Place shifter in gear position "1".
- Loosen the knurled screw (44, **Fig. 1**) and pull the Clickbox off the axle.
- Disengage the red location sleeve (43) and pull it off.
- Remove shift rod (42) and shift tube (41) out of the axle bore.
- Remove wheel.

DISMANTLING HUB

see **Fig. 1**

- Remove circlip (39), sprocket (38) and dust cap (37) as normal.
- Clamp hub by the axle between aluminum jaws with sprocket side facing downwards.
- Unscrew both locknuts (1).
- While turning clockwise, remove lever cone (2) with friction spring (3) and ball retainer (4).
- Take out 3 brake segments (5).
- Withdraw hub sleeve (6) upwards.
- Remove brake cone (7).
- Take out retaining washer (8) and thrust washer (9).
- Remove planetary gear carrier (10), washer (11) compression spring (12) and the three sun gears (13, 14, 15).
- Clamp other axle end.

- Unscrew fixed cone (36).
- Remove driver (35), compression spring (33) with cover (32), large compression spring (31), ball retainer (34), gear ring (30) and coupling gear (29).
- Compress spring (26) and remove thrust block (28).
- Remove cover (27), spring (26) and cover (25).
- Dismantle retaining washer (24).
- Remove thrust washer (23) and plastic profile washer (22).
- Unscrew grub screw (17) (Caution: It is subject to spring pressure) – and dismantle the long compression spring (18) guide pin (19), thrust block (20) and the short compression spring (21).

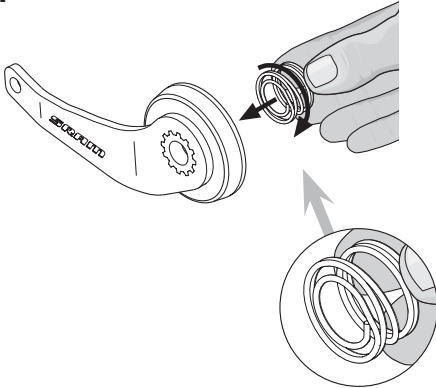
REASSEMBLY HUB

see **Fig. 1**

Lubrication see "MAINTENANCE / LUBRICATION".

- Insert into the axle (on the side with the internal thread):
Short compression spring (21), thrust block (20) – it is the same both sides, guide rod (19) – it is the same both sides, long compression spring (18).
- Compress spring and fit grub screw (17).

4



- Clamp axle, end with groove for Clickbox facing upwards.
- Fit plastic profile washer (22) with its large diameter upwards.
- Fit thrust washer (23) and retaining washer (24).
- Locate cover (25), compression spring (26) with 7 turns and cover (27, insides to the spring).
- Compress spring and position thrust block (28) – it is the same both sides – centrally in the axle.
- Clamp other axle end (groove is facing downwards).
- Fit large sun gear (15), with deflector bevels upwards.
- Position medium sun gear (14), with deflector bevels upwards.
- Fit small sun gear (13) – with recesses in front, thrust block engages in the slots.
- Position smallest compression spring (12).
- Fit 1 mm thick washer (11).
- Fit planetary gear carrier (10): Place the mounting aid (Fig. 2) on the planetary gear carrier such that the markings (X) on the 3 small planet gears and the mounting aid match up.
- Turn planetary gear carrier and at the same time push it downwards over the sun gears.
- Fit thrust washer (9) and retaining washer (8) in the undercut.
- Turn in friction spring (3) counterclockwise into the lever cone (2) (inlying winding of the spring has to lie against the lever cone) (Fig. 4).
- Insert ball retainer (4) (balls are facing upwards) into lever cone (2): the 3 recesses have to engage into the retaining lugs of the lever cone. Slightly turn ball retainer to prevent it from falling off.
- Fit lever cone onto hub shell: the retaining lugs of the lever cone have to engage into the openings between the brake segments. Make sure that lever cone engages while turning it back and forth slightly.
- Screw on locknuts (1), adjust bearing so that there is no play and lock nuts together with 15 – 20 Nm (133 – 177in.lbs.).

Caution:

Check that all the brake system components are functioning properly!

Advice:

Dismantling and reassembly of hub types without coaster brake (MH 7205 / MH 7225) should be carried out in the same way.

Differences: Instead of brake segments / cone a click-and-pawl carrier is installed on the planetary gear carrier.

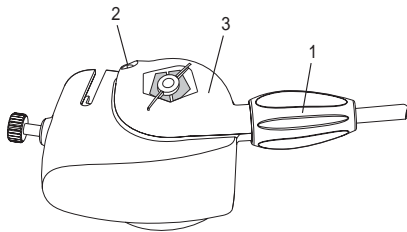
Advice:

If the gears are not accurately assembled the hub may feel tight in use. This may lead to gear wheel damage during travel.

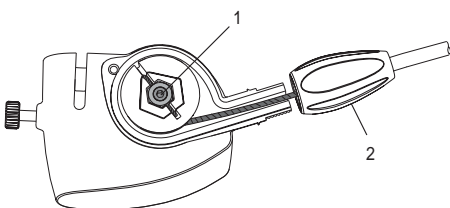
- Clamp other axle end (groove for Clickbox facing upwards).
- Fit coupling gear (29) with carrier plate downwards
- Push ring gear (30) over the coupling gear.
- Locate large spring (31).
- Fit largest ball retainer (34) with balls underneath.
- Fit cover (32, inside to the spring).
- Assemble the compression spring (33) with 12 turns.
- Position driver (35) – push it down – and screw on fixed cone (36) to the stop, tightening torque 20 Nm (177 in.lbs.).
- Clamp other axle end (groove for Clickbox is facing downwards).
- Assemble hub shell (6) with a slight counter-clockwise movement. In case the hub shell jams, position the plastic ring (Fig. 3) correctly.
- Screw brake cone (7) clockwise onto the planetary gear carrier (10) until it stops.
- Insert 3 brake segments (5).

SRAM S7 MAINTENANCE

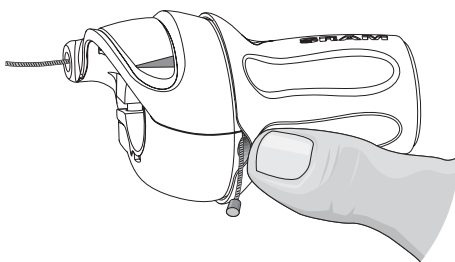
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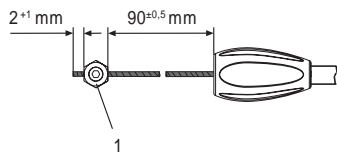
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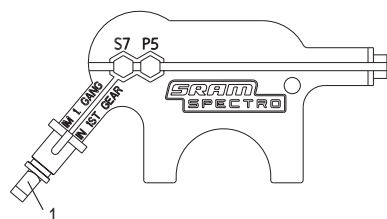
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8



9



CABLE CHANGE

Dismantling shifter cable:

- Place shifter in gear position "1".
- Do not remove the Clickbox from the axle end.
- Unscrew the adjusting screw (1, **Fig. 5**) completely. Unscrew the cover screw (2), brush aside the adjusting screw (1) and remove the cover (3).
- Withdraw shifter cable and clamping bolt (1, **Fig. 6**) upwards, loosen clamp and pull clamping piece from the cable.
- Slightly lift the grip cover (**Fig. 7**), push the cable out and discard.

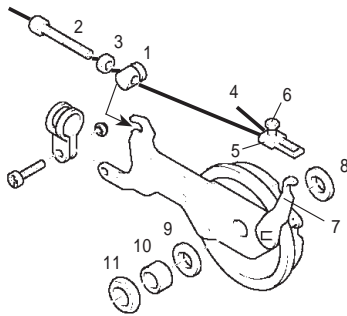
Assembly shifter cable:

- Route new cable through shifter housing and pull cable to seat cable head completely into cable recess. Feed the cable through the new cable housing and adjusting screw.
- Position clamping bolt (1, **Fig. 8**) at a distance of 90 mm, tighten up with 1.5 Nm (13 in.lbs.) and cut off cable ends to 2 – 3 mm. For positioning the clamping bolt use adjust gauge (**Fig. 9**). (Part. No. 65 0324 107 000)
- Locate clamping bolt (1, **Fig. 6**) and place shifter cable around the carrier cylinder (counter-clockwise winding).
- Position the cover (3, **Fig. 5**) and tighten up with the cover screw (2). Torque 0.35 – 0.45 Nm (3.1 – 4.0 in.lbs.). Screw in the adjusting screw (1) completely.

Advice:

- If you want to remove the Clickbox from the axle end for changing the cable, do as follows:
 - Place shifter in gear position "1".
 - Loosen the knurled screw and pull the Clickbox off the axle.
 - Now it's essential to push the end (1, **Fig. 8**) of the adjust gauge completely into the Clickbox and tighten up the knurled bolt (so that you maintain the initial tension of the spring inside the Clickbox).
 - Change cable as per description above.
- If you remove the Clickbox from the axle and change the cable without using the end of the adjust gauge, then you will lose the initial tension of the spring inside the Clickbox. In this case you must assemble the cable by placing it around the carrier cylinder with an additional winding (**Fig. 6**).

10



DRUM BRAKE

Install brake anchor plate (or exchange it):

- Place thrust washer (8, Fig. 10) over the axle on the adjusting cone and fit complete brake anchor plate. Position washer (9) distance sleeve (10) and screw on locknut (11).
- Push brake lever (7) to the stop and hold it there to center the brake jaws in the brake drum – tighten up locknut with a torque of 15 – 20 Nm (133 – 177 in.lbs.).

ADJUSTMENT DRUM BRAKE

- Unscrew adjusting screw (2, Fig. 10) until the brake pads drag lightly.
- Actuate the hand brake lever forcefully several times and then, if necessary, turn the adjusting screw further in just until the wheel starts spinning freely.
- Lock hex nut (3).

Caution:

Check that all the brake system components are functioning properly!

- Oil the inside of the sun gears, grease the outside teeth (fill the gaps in the teeth).
- Oil outside teeth and carrier plate on the coupling gear and lightly grease the borehole from right and left.
- Do not apply grease to ring gear but just oil the pawl pockets.
- Slightly grease the actuation ramps of the planetary gear carrier.
- Apply grease all around the seat area of the friction spring. Oil the pawl pockets.
- Spread grease on the complete surfaces inside and outside of the 3 brake segments.
- Regrease ball retainer and insert into lever cone, slightly grease cone surface of the lever cone.
- Line ball bearing running tracks and brake cylinder in hub shell with grease.

MAINTENANCE / LUBRICATION

Caution:

The SRAM hubs are provided with permanent lubrication and under normal conditions is maintenance-free. If the coaster brake is loaded excessively its effect can be too strong, the hub may lock. In such a case the 3 brake segments should be lubricated with a special grease (Part No. 0369 135 200/ ...201). Renew brake segments when rhombic pattern is worn out.

Cleaning of parts:

- All parts – except for the planetary gear carrier – can be degreased in a cleaning bath.
- The planetary gear carrier only needs to be cleaned on the outside with a brush so as not to degrease the planetary gear bearing.

Caution:

Do not use high-pressure water when cleaning the gear hub (e.g. strong water jets, high-pressure cleaners etc.) – if water penetrates it could lead to functional problems.

Lubrication of parts:

Use only SRAM grease (Part No. 0369 135 200/ ...201) and standard bicycle oil.

- To lubricate the bearing points on the planetary gear sets, position the planetary gear carrier on its crown and apply 2 – 3 drops of oil to the bearing bolts – at the same time turning the planetary gears so that the bearing points are completely wet. Oil axle through the axle bore and axle slot, apply a thin coating of grease to the outside.

TROUBLESHOOTING

Problem	Cause	Remedy
Shifting difficulties	Damaged control cable	Replace control cable
	Incorrect gear setting	Adjust shift system
	To much additional axle attachments between hub and axle nut	Beginning of axle thread must be visible in front of the axle nut
Pedals are carried forward when free-wheeling	Bearings set too tight	Re-adjust bearings
	Loose lock nuts	Tighten lock nuts (15 – 20 Nm)
	Chain is over-tensioned	Reduce chain tension
Hub locks when braking (coaster brake)	Brake segments has run dry	Wash out hub sleeve, repolish and relubricate brake cylinder, renew brake segments
Coaster brake without function	Incorrect mounted friction spring (3, Fig. 1 / Page 56)	Fit friction spring in correct way