

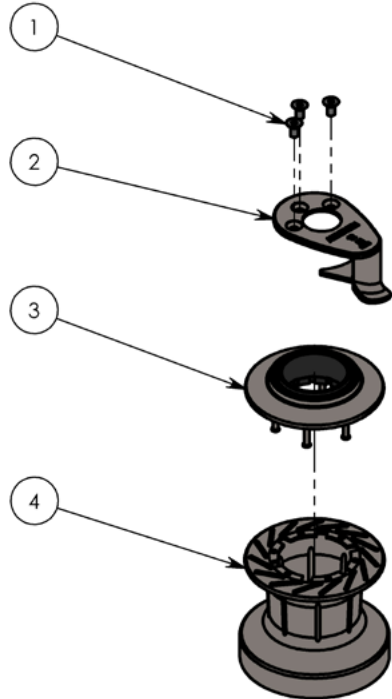
PRODUCT MANUAL

12ST (V.4.0)

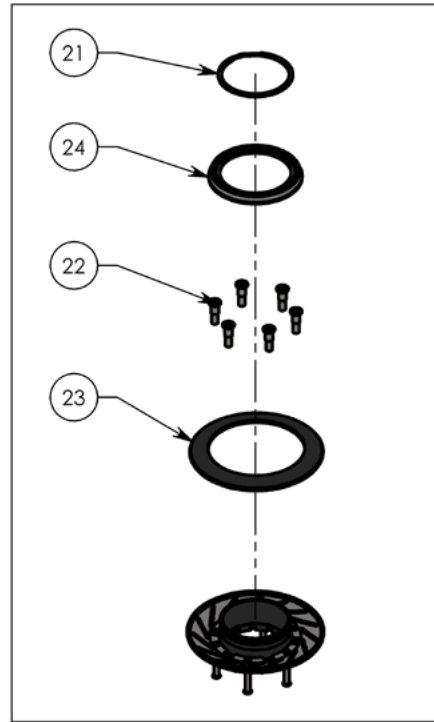
12ST FS (V.2.0.F)



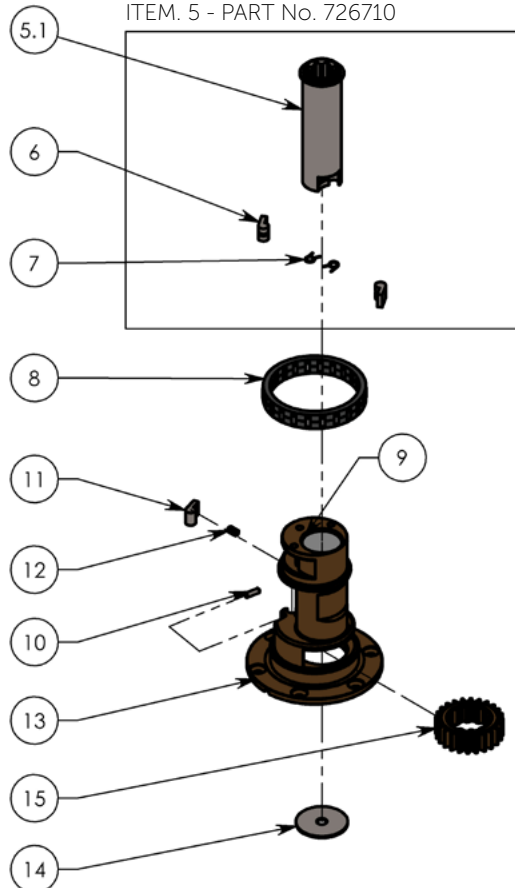
EXPLODED VIEW



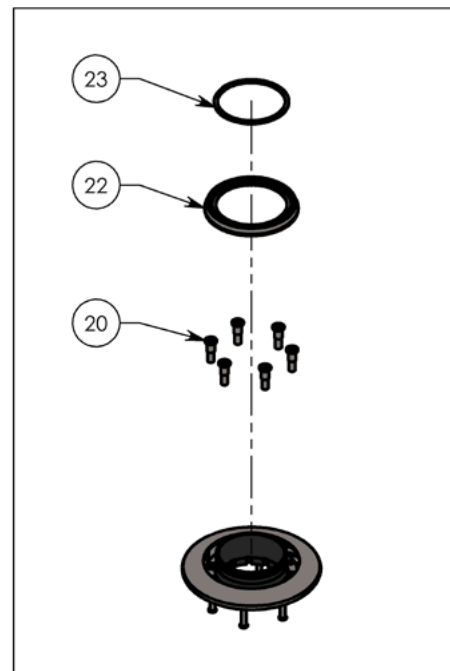
ITEM. 3
MODEL ST - PART No. 537551



ITEM. 5 - PART No. 726710



ITEM. 3
MODEL ST FS - PART No. 537511



I PARTS LIST

| ITEM NO. | QTY. | DESCRIPTION | PART NO. |
|----------|----------|--|-----------------|
| 1 | 3 | Screw | 543311 |
| 2 | 1 | Self-tailing arm | 596715 |
| 3 | 1 | Self-tailing top complete Model ST | 537551 |
| 3 | 1 | Self-tailing top complete Model ST FS | 537511 |
| 3.1 | 1 | Circlip | 726400U |
| 3.2 | 1 | Top ring | 782100 |
| 3.3 | 6 | Screw | 781811 |
| 3.4 | 1 | Disc - Model ST (537551 only) | 726310 |
| 4 | 1 | Drum complete | 726811 |
| 5 | 1 | Drive shaft complete | 726710 |
| 5.1 | 1 | Drive shaft | 726705 |
| 6 | 2 | Pawl | 713200 |
| 7 | 2 | Arm spring | 713300 |
| 8 | 1 | Roller bearing | 727400 |
| 9 | 2 | Bushing (not removable) | 716501 |
| 10 | 1 | Screw | DIN913-A4-M4x12 |
| 11 | 1 | Pawl | 533400 |
| 12 | 1 | Spring | 533500 |
| 13 | 1 | Base | 731710 |
| 14 | 1 | Insert plate | 727500 |
| 15 | 1 | Ratchet gear | 711701 |
| | 1 | Service kit 18 (not included) | 710018 |

I MOUNTING INSTRUCTIONS

Installing the winch is easy, if you follow these instructions. The numbers in () refer to the position numbers in the parts list.

Tools required for the installation:

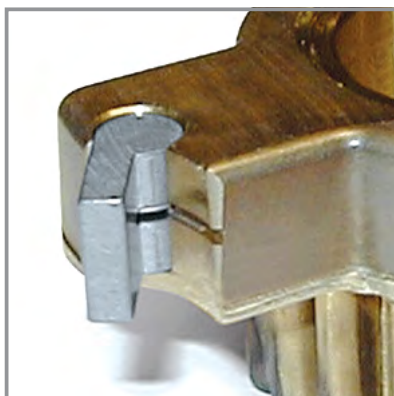
- Screwdriver (large)
- Ø6,5 mm. (1/4") drill
- 6 pcs. M6 (1/4") countersunk head screws
- Ring spanner to match nuts

1. Remove screws (1).
2. Remove self-tailing arm (2) and drum (4).
3. Mark location of bolt holes using the template.

IMPORTANT: On this model the self-tailing arm (2) is fixed in one position. Ensure correct positioning of the self-tailing arm, before marking and drilling the bolt holes.

4. Remove base (13). Be sure that no dust comes into contact with the winch while drilling.
5. Drill bolt holes Ø6,5mm (1/4").
6. Apply a light coat of bedding compound, ensuring that each bolt hole is bedded. Keep drain grooves clear.
7. Fasten base (13) into place using 6 pcs. M6 (1/4") countersunk head screws. Use large washers or a backing plate.
8. Assemble in reverse order.
9. Check that the winch is functioning correctly:
 - The drum should operate smoothly, by turning the drum clockwise by hand.
 - The drum must not turn when trying to turn the drum anti clockwise.
 - While turning the winch handle clockwise the drum should turn.
 - While turning the winch handle anti clockwise the drum should not turn.

PAWL SPRING MOUNTING



Note the curved
spring "arm"

SERVICE INSTRUCTIONS

Tools required for service:

- Screwdriver (large)
- Screwdriver (small)
- Winch handle
- ANDERSEN winch grease

1. Remove screws (1).
2. Remove self-tailing arm (2) and drum (4).
3. Insert a winch handle. Pull up the drive shaft (5) gently, while turning ratchet gear (15) carefully. Remove drive shaft (5).
4. Remove pawls (6) and arm springs (7).
5. Remove ratchet gear (15). DO NOT remove the insert plate (14) but make sure that the insert plate is positioned in its groove.
6. To release the roller bearing (8), gently insert a small screwdriver between roller bearing and base (13).
7. Remove roller bearing. Remove spring (12). DO NOT remove the pawl (11) and the spring (12) on the base.
8. Clean all parts in white spirits/mineral spirits. Remember to clean the gear teeth and roller bearing track.
9. Assemble in reverse order. During assemble, lightly grease all gear teeth, drive shaft, roller bearing, shafts, balls, pawls, springs and bushings. Use a small, soft brush. Pawls may be lubricated with either a very thin film of ANDERSEN WINCH GREASE. It is very important that pawls can move freely.

IMPORTANT: When assembling the winch, check the functioning of each pawl by pushing the pawl against the spring. The pawls should move smoothly and automatically return to their normal position, where the pawls engage with the teeth. If the pawls do not function correctly, clean and lubricate the pawls and gears. Check the function of the pawls again to make sure that it works correctly. If the pawls do not work correctly replace the springs and recheck the functioning.

Malfunctioning pawls may lead to unexpected release of the winch force resulting in fatal injuries to the user and others.

Service Kit No: 18 (art. no. 710018) contains spare parts for this winch.

Maintenance instructions for PVD coated stainless steel surfaces.

PVD-coated surfaces should be rinsed regularly in fresh water to remove any salt residue, dirt or other contaminants and dried gently with a soft cloth. To remove grease or other marks, a mild abrasive free cleaning agent such as spray-on glass cleaning solution may be used. No caustic detergents or other aggressive or abrasive cleaning agents should ever be used, as they may damage the surface.

GENERAL INFORMATION

Due to the best choice of materials and high precision in manufacturing, we recommend, for normal use, only to dismantle, clean and lubricate the winch once every second year. Under extensive use, such as racing, charter or blue water sailing, we recommend to lubricate the winch once every year.

We strongly recommend always to use ANDERSEN WINCH GREASE, when lubricating your winch. ANDERSEN WINCH GREASE is a high quality silicone/Teflon grease product.

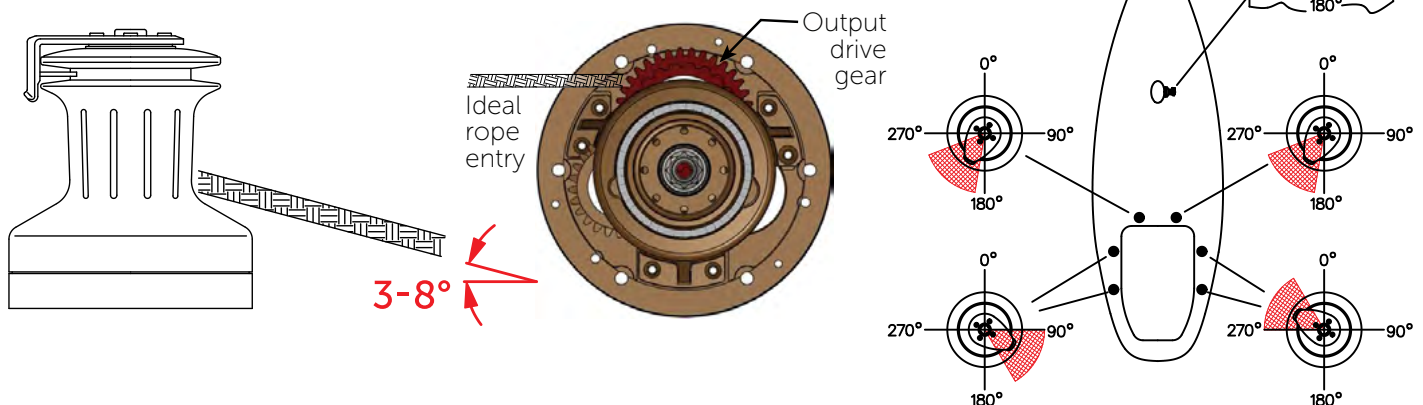
Most other types of grease, including "marine grease" are not suitable for lubrication of winches. Non-suitable grease products can cause malfunction, which could result in fatal injuries for the user and others.

Pawl arm springs should be replaced every second year. Spare arm springs and other parts that may be required are included in the ANDERSEN Service Kit. Please refer to the service instruction for the Service Kit suitable for the specific winch.

When the winch handle is not in use but the winch is under load, we recommend, from a safety point of view, to remove the winch handle from the winch.

To ensure correct function of the self-tailing unit, only use recommended line sizes. When using the winch with mooring lines DO NOT use the self-tailing function and be sure that the mooring line is not in contact with the self-tailing arm.

To ensure the best possible functioning of the winch, we recommend that the winch is placed in accordance with the line entry (shown below).



Be also aware that the self-tailing arm is positioned correctly. We recommend to have the self-tailing arm positioned within the shaded area (shown above). On this model the self-tailing arm is fixed, making it very important to establish the proper location of the holes prior to drilling these in the deck.

To identify the Output Drive Gear, insert a winch handle into the winch and rotate in both directions, the drive gear will only rotate clockwise in a fast and slow speed.

I SAFETY NOTICES

I ALL WINCHES



Read All Safety Notices and Product Manuals

Do not install or operate this winch before reading and fully understanding the contents of this Product Manual.



Stay Alert When Operating

Andersen winches are very powerful and have the potential to cause significant damage and/or serious injury if used improperly or without due caution and vigilance.



Operators Must be Trained

Help prevent significant damage and/or serious injury by ensuring any person operating a winch has a thorough understanding of its proper operation and is aware of the potential hazards involved. As a minimum, all winch operators must read and understand this Safety Notice Sheet and the Product Manual.

Particular attention is drawn to the following points:

- Children and others not qualified to operate an electric winch must be kept at a safe distance from the winch and any rigging or fittings that are under load.
- Long hair and/or loose clothing must be tied back to avoid being caught in the winch.
- In the event of a rope override or other fault, stop the winch and turn off power before attempting to resolve the problem.



Avoid Accidental Operation

Remove winch handles and turn off power to the winch when not in use to help avoid unsupervised or unintentional operation. Failure to do so could result in significant damage and/or serious injury.



Maintenance

Turn off power to the winch before performing any maintenance or service tasks. Failure to do so could result in significant damage and/or serious injury.



Lifting Operations

The winch must not be operated with the rope in the self tailer when used in any kind of lifting operation.

Any lifting operations should be conducted by two persons in order to maintain constant visual contact with the object being lifted.

Furthermore the self tailer must not be used as a cleat for a rope used to lift or suspend any object. The rope must be secured properly by tying off, or leading to a suitable fitting such as a cleat or bollard.

Failure to observe these precautions could result in serious injury or death.

I DO NOT DISCARD



PRODUCT MANUAL

12ST (V.4.0) | 12ST FS (V.2.0.F)

p8

| WORLDWIDE DISTRIBUTION & SERVICE

| Visit www.andersenwinches.com

| WARRANTY

| Visit www.ronstan.com/warranty

Manufactured by Ronstan Denmark ApS.
Jægvænget 36 - 7100 Vejle - Denmark
office@ronstan.dk - www.andersenwinches.com



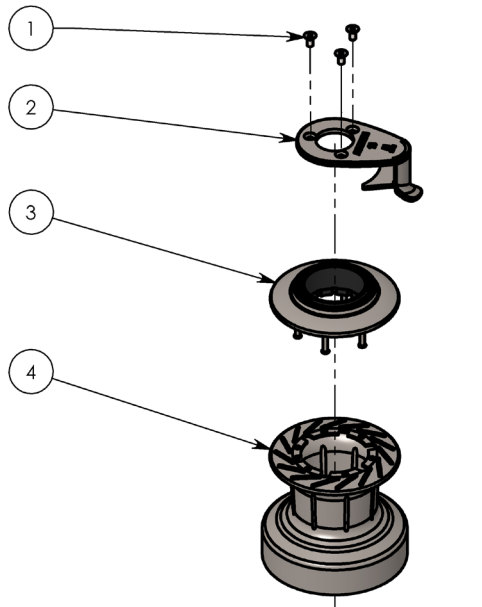
PRODUCT MANUAL

18ST (V.2.0)

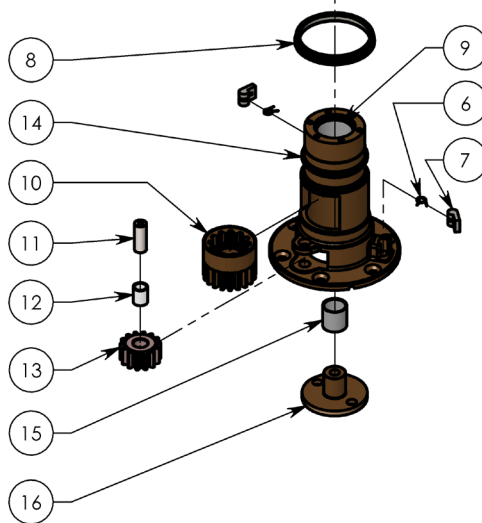
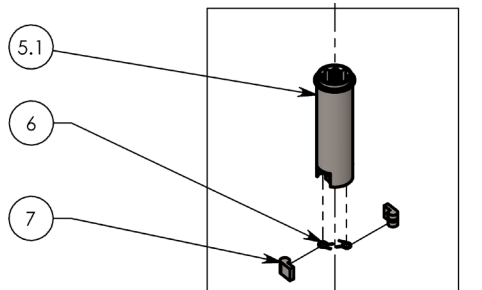
18ST FS (V.2.0.F)



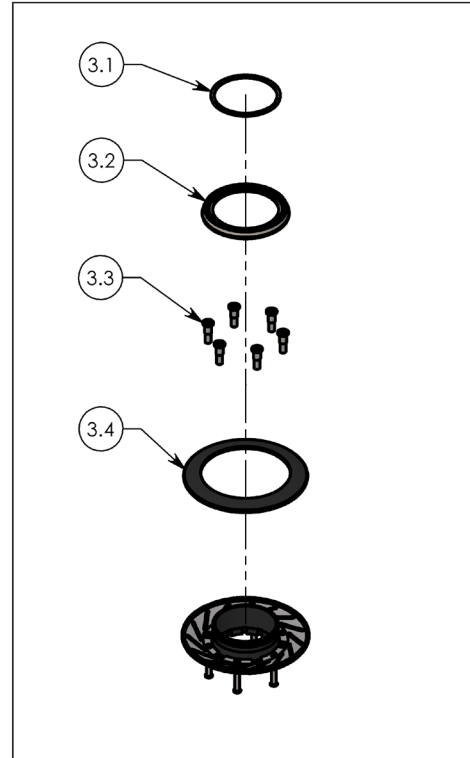
EXPLODED VIEW



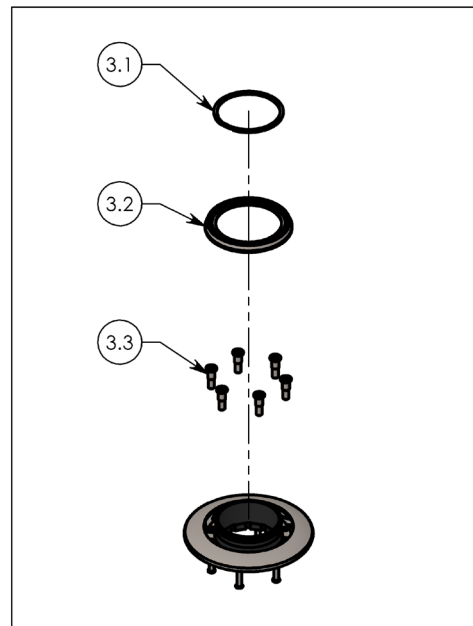
ITEM. 5 - PART No. 786001



ITEM. 3
MODEL ST FS - PART No. 537551



ITEM. 3
MODEL ST FS - PART No. 537511



I PARTS LIST

| ITEM NO. | QTY. | DESCRIPTION | PART NO. |
|----------|----------|--|---------------|
| 1 | 3 | Screw | 543310 |
| 2 | 1 | Self-tailing arm | 786105 |
| 3 | 1 | Self-tailing top complete Model ST | 537551 |
| 3 | 1 | Self-tailing top complete Model ST FS | 537511 |
| 3.1 | 1 | Circlip | 726400U |
| 3.2 | 1 | Top ring | 782100 |
| 3.3 | 6 | Screw | 781811 |
| 3.4 | 1 | Disc - Model ST (537551 only) | 726310 |
| 4 | 1 | Drum complete | 773600 |
| 5 | 1 | Drive shaft complete | 786010 |
| 5.1 | 1 | Drive shaft | 786001 |
| 6 | 4 | Arm spring | 713300 |
| 7 | 4 | Pawl | 713200 |
| 8 | 1 | Bearing | 785700 |
| 9 | 1 | Bushing (not removable) | 716501 |
| 10 | 1 | Ratchet gear | 785900 |
| 11 | 1 | Shaft | 785300 |
| 12 | 1 | Bushing | RD786300 |
| 13 | 1 | Gear wheel | 786200 |
| 14 | 1 | Base | 773700 |
| 15 | 1 | Bushing for ratchet gear | 785500 |
| 16 | 1 | Shaft for ratchet gear | 785100 |
| | 1 | Service kit 18 (not included) | 710018 |

I MOUNTING INSTRUCTIONS

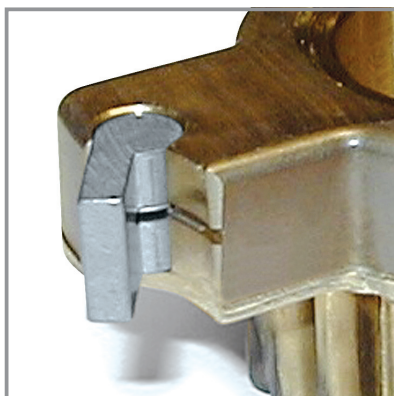
Installing the winch is easy, if you follow these instructions. The numbers in () refer to the position numbers in the parts list.

Tools required for the installation:

- Allen key (3 mm)
- Allen key (5 mm)
- Ø6.5 mm. (1/4") drill
- Bedding compound
- 6 x M6 (1/4") countersunk head screws and corresponding nuts (length depending on deck thickness).
- 6 x large washers or backing plate
- Ring spanner to match nuts

1. Remove screws (1).
2. Remove self-tailing arm (2) and drum (4).
3. Place the template and drill holes Ø6.5mm (1/4").
Make sure that no dust comes into contact with the winch while drilling.
4. Apply a light coat of bedding compound, ensuring that each bolt hole is bedded.
Keep drain grooves clear.
5. Fasten base (14) into place using 6 pieces. M6 (1/4") countersunk head screws.
Use large washers or a backing plate.
6. Assemble in reverse order.
7. Check that the winch is functioning correctly:
 - The drum should operate smoothly, by turning the drum clockwise by hand.
 - The drum must not turn when trying to turn the drum anti clockwise.
 - While turning the winch handle anti clockwise the drum should turn.
 - While turning the winch handle clockwise the drum should not turn.

PAWL SPRING MOUNTING



Note the curved
spring "arm"

SERVICE INSTRUCTIONS

Tools required for service:

- Screwdriver (large)
- Screwdriver (small)
- Winch handle
- Allen key (3 mm)
- ANDERSEN winch grease

1. Remove screws (1).
2. Remove self-tailing arm (2).
3. Remove drum (4).
4. Pull up the drive shaft (5) gently, using the winch handle.
5. Remove pawls (7) and springs (6).
6. Remove shaft (11) and pull out gearwheel (13).
7. Lift up ratchet gear (10) and pull it out through hole in base (14).
8. Clean all parts in white spirits/mineral spirits including gear teeth.
9. Assemble in reverse order. During assemble, by the use of a small soft brush lightly grease all gear teeth, drive shaft, roller bearing, shafts, pawls, springs and bushings. Pawls should only be lubricated with a very thin film of ANDERSEN WINCH GREASE. It is very important that pawls can move freely.

IMPORTANT: When assembling the winch, check the functioning of each pawl by pushing the pawl against the spring. The pawls should move smoothly and automatically return to their normal position, where the pawls engage with the teeth. If the pawls do not function correctly, clean and lubricate the pawls and gears. Check the function of the pawls again to make sure that it works correctly. If the pawls do not work correctly replace the springs and recheck the functioning.

Malfunctioning pawls may lead to unexpected release of the winch force resulting in fatal injuries to the user and others.

Service Kit No: 18 (part. no. 710018) contains spare parts for these winches.

Maintenance instructions for PVD coated stainless steel surfaces.

PVD-coated surfaces should be rinsed regularly in fresh water to remove any salt residue, dirt or other contaminants and dried gently with a soft cloth. To remove grease or other marks, a mild abrasive free cleaning agent such as spray-on glass cleaning solution may be used. No caustic detergents or other aggressive or abrasive cleaning agents should ever be used, as they may damage the surface.

GENERAL INFORMATION

Due to the best choice of materials and high precision in manufacturing, we recommend, for normal use, only to dismantle, clean and lubricate the winch once every second year. Under extensive use, such as racing, charter or blue water sailing, we recommend to lubricate the winch once every year.

We strongly recommend always to use ANDERSEN WINCH GREASE, when lubricating your winch. ANDERSEN WINCH GREASE is a high quality silicone/Teflon grease product.

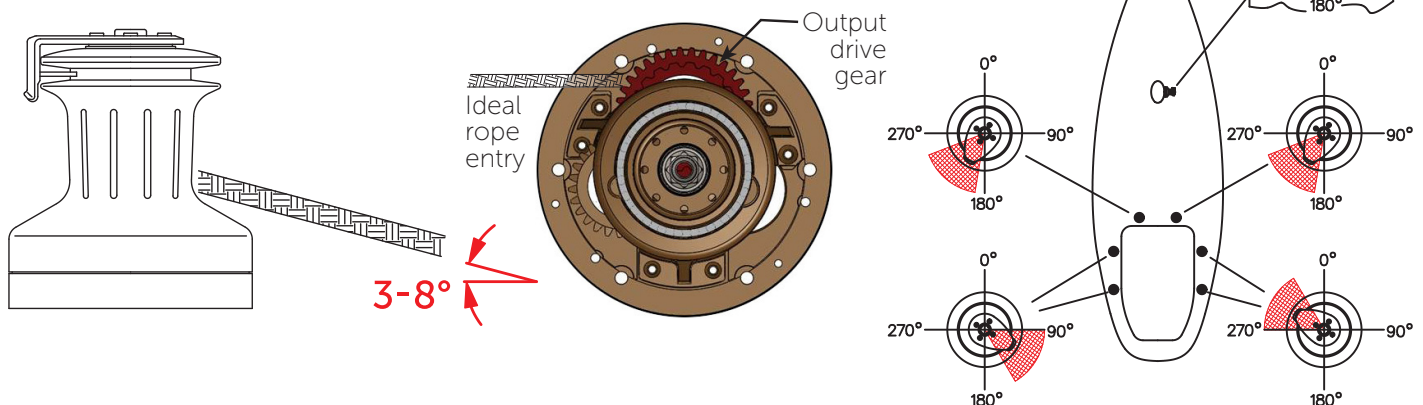
Most other types of grease, including "marine grease" are not suitable for lubrication of winches. Non-suitable grease products can cause malfunction, which could result in fatal injuries for the user and others.

Pawl arm springs should be replaced every second year. Spare arm springs and other parts that may be required are included in the ANDERSEN Service Kit. Please refer to the service instruction for the Service Kit suitable for the specific winch.

When the winch handle is not in use but the winch is under load, we recommend, from a safety point of view, to remove the winch handle from the winch.

To ensure correct function of the self-tailing unit, only use recommended line sizes. When using the winch with mooring lines DO NOT use the self-tailing function and be sure that the mooring line is not in contact with the self-tailing arm.

To ensure the best possible functioning of the winch, we recommend that the winch is placed in accordance with the line entry (shown below).



Be also aware that the self-tailing arm is positioned correctly. We recommend to have the self-tailing arm positioned within the shaded area (shown above). On this model the self-tailing arm can be placed in several different positions after having installed the winch.

To identify the Output Drive Gear, insert a winch handle into the winch and rotate in both directions, the drive gear will only rotate clockwise in a fast and slow speed.

I SAFETY NOTICES

I ALL WINCHES



Read All Safety Notices and Product Manuals

Do not install or operate this winch before reading and fully understanding the contents of this Product Manual.



Stay Alert When Operating

Andersen winches are very powerful and have the potential to cause significant damage and/or serious injury if used improperly or without due caution and vigilance.



Operators Must be Trained

Help prevent significant damage and/or serious injury by ensuring any person operating a winch has a thorough understanding of its proper operation and is aware of the potential hazards involved. As a minimum, all winch operators must read and understand this Safety Notice Sheet and the Product Manual.

Particular attention is drawn to the following points:

- Children and others not qualified to operate an electric winch must be kept at a safe distance from the winch and any rigging or fittings that are under load.
- Long hair and/or loose clothing must be tied back to avoid being caught in the winch.
- In the event of a rope override or other fault, stop the winch and turn off power before attempting to resolve the problem.



Avoid Accidental Operation

Remove winch handles and turn off power to the winch when not in use to help avoid unsupervised or unintentional operation. Failure to do so could result in significant damage and/or serious injury.



Maintenance

Turn off power to the winch before performing any maintenance or service tasks. Failure to do so could result in significant damage and/or serious injury.



Lifting Operations

The winch must not be operated with the rope in the self tailer when used in any kind of lifting operation.

Any lifting operations should be conducted by two persons in order to maintain constant visual contact with the object being lifted.

Furthermore the self tailer must not be used as a cleat for a rope used to lift or suspend any object. The rope must be secured properly by tying off, or leading to a suitable fitting such as a cleat or bollard.

Failure to observe these precautions could result in serious injury or death.

I DO NOT DISCARD



PRODUCT MANUAL

18ST (V.2.0) | 18ST FS (V.2.0.F)

p8

| WORLDWIDE DISTRIBUTION & SERVICE

| Visit www.andersenwinches.com

| WARRANTY

| Visit www.ronstan.com/warranty

Manufactured by Ronstan Denmark ApS.
Jægervænget 36 - 7100 Vejle - Denmark
office@ronstan.dk - www.andersenwinches.com



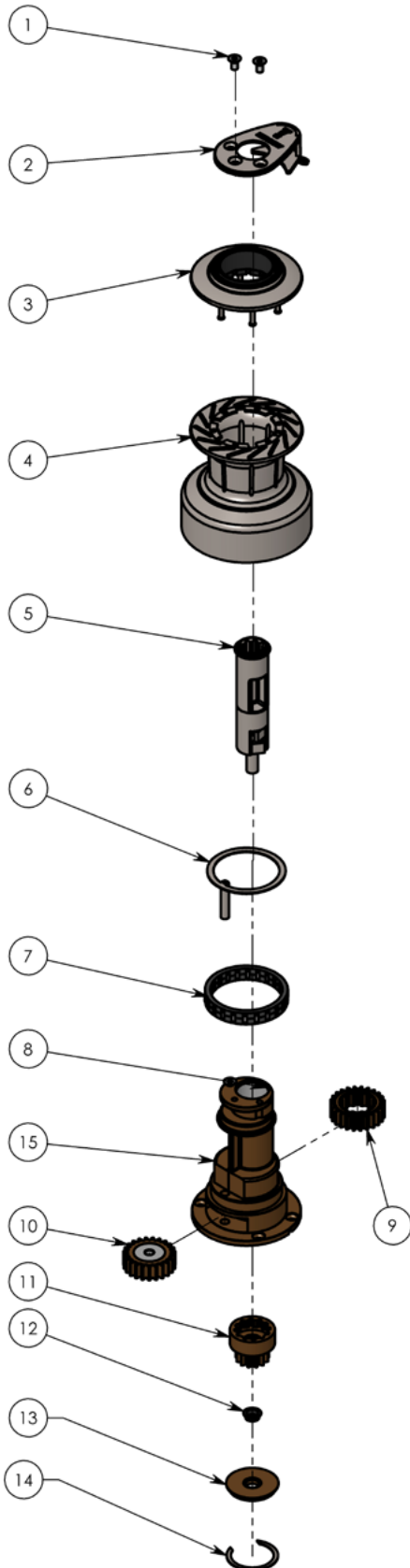
PRODUCT MANUAL

28ST (V.4.0)

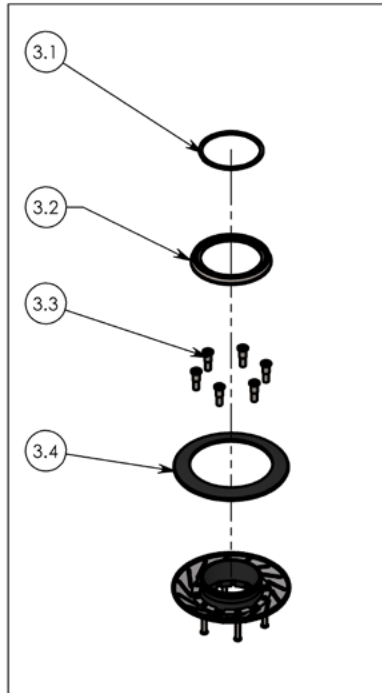
28ST FS (V.4.0.F)



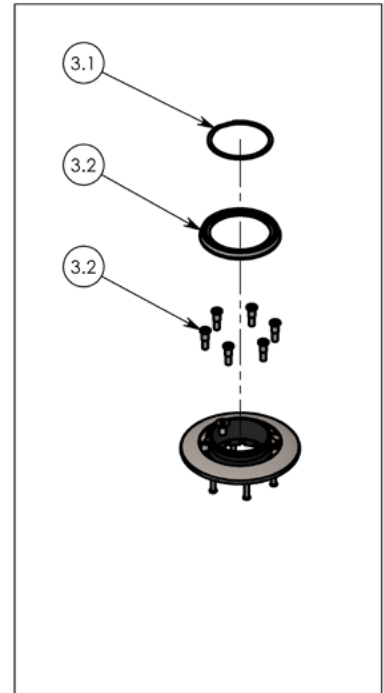
EXPLODED VIEW



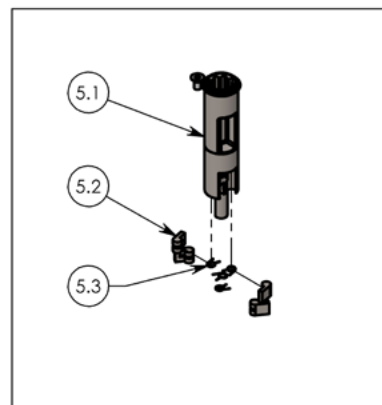
ITEM. 3
MODEL ST - PART No. 537551



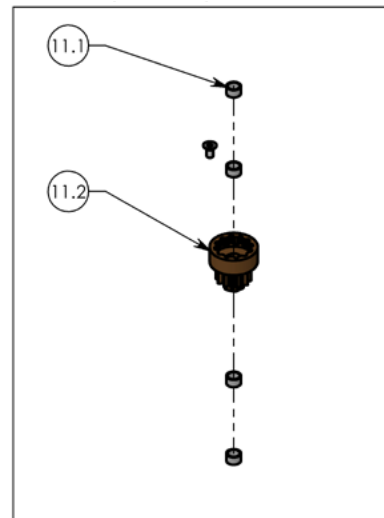
ITEM. 3
MODEL ST FS - PART No. 537511



ITEM. 5 - PART No. 729021



ITEM. 11 Version 3,2/3.2.F >
MODEL STE/STE FS AD/BD - PART No. 534160



I PARTS LIST

| ITEM NO. | QTY. | DESCRIPTION | PART NO. |
|-----------|----------|--|---------------|
| 1 | 3 | Screw | 543311 |
| 2 | 1 | Self-tailing arm | 596712 |
| 3 | 1 | Self-tailing top complete Model ST | 537551 |
| 3 | 1 | Self-tailing top complete Model ST FS | 537511 |
| 3.1 | 1 | Circlip | 726400U |
| 3.2 | 1 | Top ring | 782100 |
| 3.3 | 6 | Screw | 781811 |
| 3.4 | 1 | Disc Model ST (537551 only) | 726310 |
| 4 | 1 | Drum complete | 729110 |
| 5 | 1 | Drive shaft complete | 729021 |
| 5.1 | 1 | Drive shaft | 729011 |
| 5.2 | 4 | Arm spring | 713300 |
| 5.3 | 4 | Pawl | 713200 |
| 6 | 1 | Shaft ring | 729700 |
| 7 | 1 | Roller bearing complete | 727400 |
| 8 | 2 | Bushing (not removable) | 716501 |
| 9 | 1 | Ratchet gear all models | 711701 |
| 10 | 1 | Gear wheel complete | 729600 |
| 11 | 1 | Ratchet gear Model ST | 729400 |
| 11 | 1 | Ratchet gear Model STE/STE BD/ STE AD | 534160 |
| 11.1 | 4 | Bushing | RD100492 |
| 11.2 | 1 | Ratchet gear wheel Model STE/STE BD/STE AD | 534150 |
| 12 | 1 | Bushing | 729501 |
| 13 | 1 | Cover | 729503 |
| 14 | 1 | Circlip | 729502U |
| 15 | 1 | Base | 731810 |
| | 1 | Service kit 18 (not included) | 710018 |

MOUNTING INSTRUCTIONS

Installing the winch is easy, if you follow these instructions. The numbers in () refer to the position numbers in the parts list.

Tools required for the installation:

- Allen key (4 mm)
- Allen key (5 mm)
- Ø6.5 mm (1/4") drill
- Bedding compound
- 5 x M6 (1/4") countersunk head screws and corresponding nuts (length depending on deck thickness)
- 5 x large washers or backing plate
- Ring spanner to match nuts

1. Remove screws (1).
2. Remove self-tailing arm (2) and drum (4).
3. Mark location of boltholes using the template.

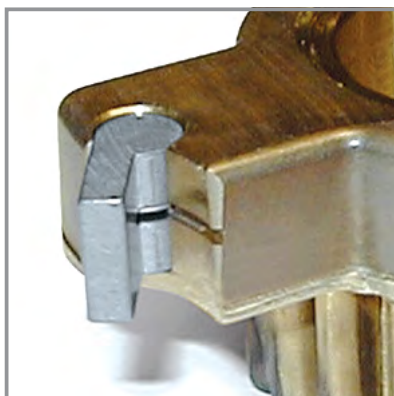
IMPORTANT: On the 28ST the self-tailing arm (2) is fixed in one position.

Ensure correct positioning of the self-tailing arm, before marking the bolt holes.

Drill bolt holes Ø6.5mm (1/4"). Be sure that no dust comes into contact with the winch while drilling.

5. Apply a light coat of bedding compound, ensuring that each bolthole is bedded. Keep drain grooves clear.
6. Fasten base (15) into place using 5 pieces. M6 (1/4") countersunk head screws. Use large washers or a backing plate.
7. Assemble in reverse order.
8. Check that the winch is functioning correctly:
 - The drum should operate smoothly, when turning the drum clockwise by hand.
 - The drum must not turn when trying to turn the drum anti clockwise by hand.
 - While turning the winch handle clockwise the drum should turn slowly.
 - While turning the winch handle anti clockwise the drum should turn quickly.

PAWL SPRING MOUNTING



Note the curved spring "arm"

SERVICE INSTRUCTIONS

Tools required for service:

- Allen key (4 mm)
- Winch handle
- Screwdriver (small)
- ANDERSEN winch grease

1. Remove screws (1).
2. Remove self-tailing arm (2) and drum (4).
3. Insert a winch handle. Pull up the drive shaft (5) gently, while turning gear wheel (10) and ratchet gear (9) carefully. Remove drive shaft (5).
4. Remove plugs (5.4), pawls (5.3) and arm springs (5.2).
5. Remove ratchet gear (9).
6. Remove shaft ring (6). It can be difficult to get the shaft over the top of the base (15). By turning and tilting the shaft, it will come off. DO NOT use violence.
7. Remove gear wheel (10).
8. To release the roller bearing (7), gently insert a small screwdriver between roller bearing, and base (15). Remove roller bearing.
9. The ratchet gear (11) should be cleaned without being removed from the base (15).
10. Clean all parts in white spirits/mineral spirits. Remember to clean the gear teeth and roller bearing track inside the drum (4).
11. Assemble in reverse order. During assemble, by the use of a small soft brush lightly grease all gear teeth, drive shaft, roller bearing, shafts, pawls, springs and bushings. Pawls should only be lubricated with a very thin film of ANDERSEN WINCH GREASE. It is very important that pawls can move freely.

IMPORTANT: When assembling the winch, check the functioning of each pawl by pushing the pawl against the spring. The pawls should move smoothly and automatically return to their normal position, where the pawls engage with the teeth. If the pawls do not function correctly, clean and lubricate the pawls and gears. Check the function of the pawls again to make sure that it works correctly. If the pawls do not work correctly replace the springs and recheck the functioning.

Malfunctioning pawls may lead to unexpected release of the winch force resulting in fatal injuries to the user and others.

Service Kit No: 18 (part. no. 710018) contains spare parts for this winch.

Maintenance instructions for PVD coated stainless steel surfaces.

PVD-coated surfaces should be rinsed regularly in fresh water to remove any salt residue, dirt or other contaminants and dried gently with a soft cloth. To remove grease or other marks, a mild abrasive free cleaning agent such as spray-on glass cleaning solution may be used. No caustic detergents or other aggressive or abrasive cleaning agents should ever be used, as they may damage the surface.

GENERAL INFORMATION

Due to the best choice of materials and high precision in manufacturing, we recommend, for normal use, only to dismantle, clean and lubricate the winch once every second year. Under extensive use, such as racing, charter or blue water sailing, we recommend to lubricate the winch once every year.

We strongly recommend always to use ANDERSEN WINCH GREASE, when lubricating your winch. ANDERSEN WINCH GREASE is a high quality silicone/Teflon grease product.

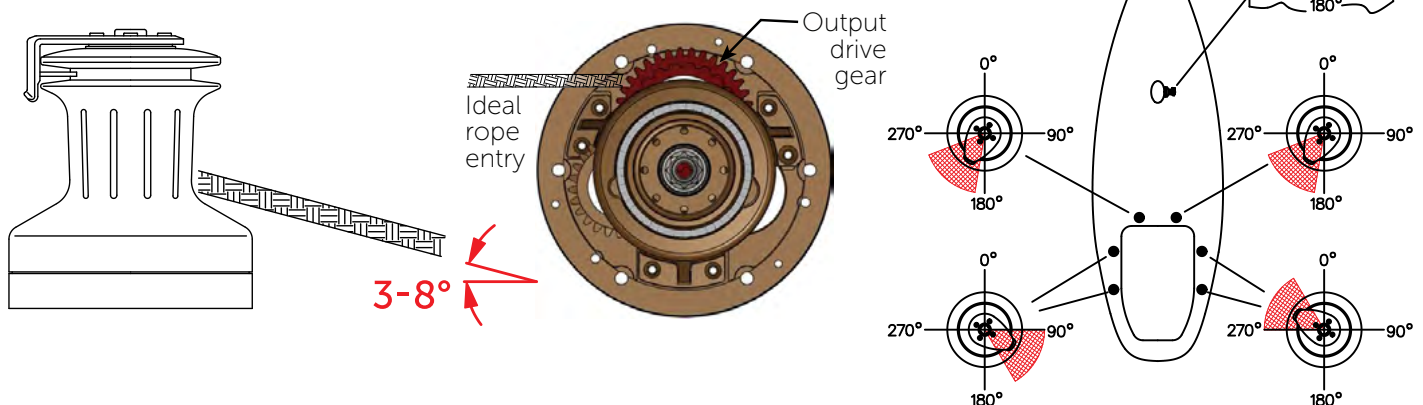
Most other types of grease, including "marine grease" are not suitable for lubrication of winches. Non-suitable grease products can cause malfunction, which could result in fatal injuries for the user and others.

Pawl arm springs should be replaced every second year. Spare arm springs and other parts that may be required are included in the ANDERSEN Service Kit. Please refer to the service instruction for the Service Kit suitable for the specific winch.

When the winch handle is not in use but the winch is under load, we recommend, from a safety point of view, to remove the winch handle from the winch.

To ensure correct function of the self-tailing unit, only use recommended line sizes. When using the winch with mooring lines DO NOT use the self-tailing function and be sure that the mooring line is not in contact with the self-tailing arm.

To ensure the best possible functioning of the winch, we recommend that the winch is placed in accordance with the line entry (shown below).



Be also aware that the self-tailing arm is positioned correctly. We recommend to have the self-tailing arm positioned within the shaded area (shown above). On this model the self-tailing arm is fixed, making it very important to establish the proper location of the holes prior to drilling these in the deck.

To identify the Output Drive Gear, insert a winch handle into the winch and rotate in both directions, the drive gear will only rotate clockwise in a fast and slow speed.

I SAFETY NOTICES

I ALL WINCHES



Read All Safety Notices and Product Manuals

Do not install or operate this winch before reading and fully understanding the contents of this Product Manual.



Stay Alert When Operating

Andersen winches are very powerful and have the potential to cause significant damage and/or serious injury if used improperly or without due caution and vigilance.



Operators Must be Trained

Help prevent significant damage and/or serious injury by ensuring any person operating a winch has a thorough understanding of its proper operation and is aware of the potential hazards involved. As a minimum, all winch operators must read and understand this Safety Notice Sheet and the Product Manual.

Particular attention is drawn to the following points:

- Children and others not qualified to operate an electric winch must be kept at a safe distance from the winch and any rigging or fittings that are under load.
- Long hair and/or loose clothing must be tied back to avoid being caught in the winch.
- In the event of a rope override or other fault, stop the winch and turn off power before attempting to resolve the problem.



Avoid Accidental Operation

Remove winch handles and turn off power to the winch when not in use to help avoid unsupervised or unintentional operation. Failure to do so could result in significant damage and/or serious injury.



Maintenance

Turn off power to the winch before performing any maintenance or service tasks. Failure to do so could result in significant damage and/or serious injury.



Lifting Operations

The winch must not be operated with the rope in the self tailer when used in any kind of lifting operation.

Any lifting operations should be conducted by two persons in order to maintain constant visual contact with the object being lifted.

Furthermore the self tailer must not be used as a cleat for a rope used to lift or suspend any object. The rope must be secured properly by tying off, or leading to a suitable fitting such as a cleat or bollard.

Failure to observe these precautions could result in serious injury or death.

I DO NOT DISCARD



PRODUCT MANUAL

28ST (V.4.0) | 28ST FS (V.4.0.F)

p8

WORLDWIDE DISTRIBUTION & SERVICE

Visit www.andersenwinches.com

WARRANTY

Visit www.ronstan.com/warranty

Manufactured by Ronstan Denmark ApS.
Jægervænget 36 - 7100 Vejle - Denmark
office@ronstan.dk - www.andersenwinches.com



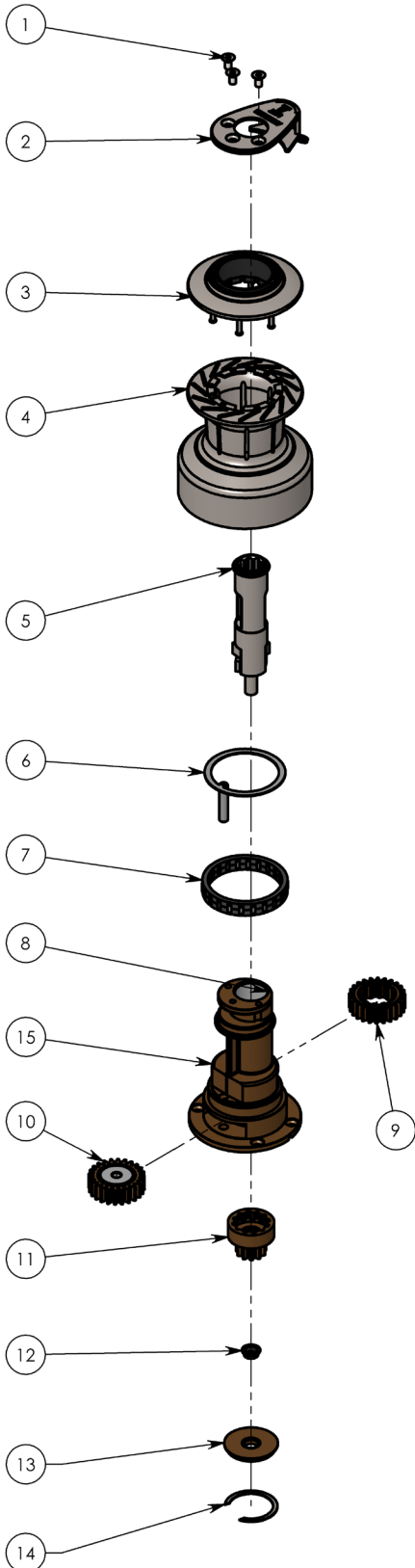
PRODUCT MANUAL

34ST (V.2.0)

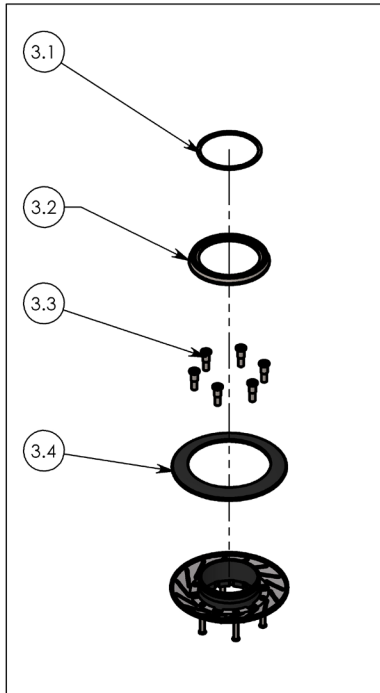
34ST FS (V.2.0.F)



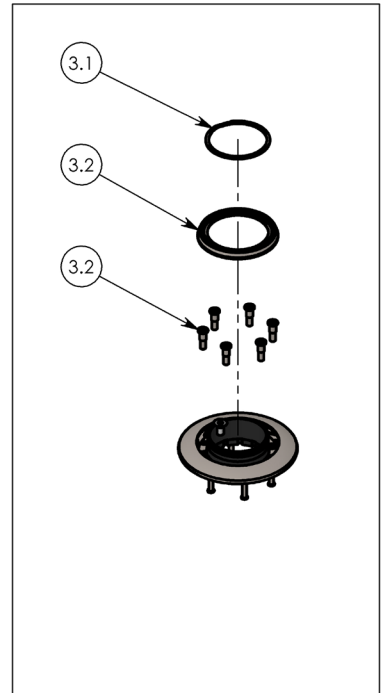
EXPLODED VIEW



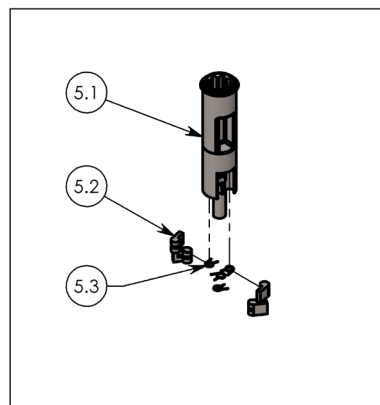
ITEM. 3
MODEL ST - PART No. 537551



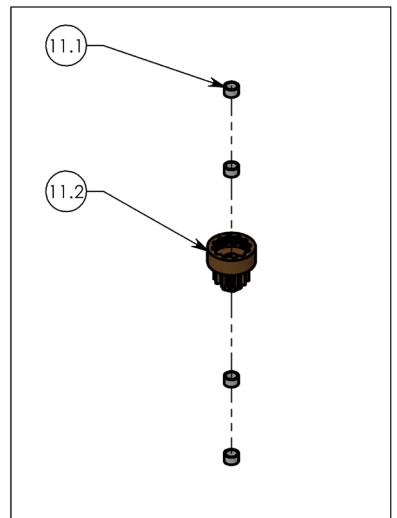
ITEM. 3
MODEL ST FS - PART No. 537511



ITEM. 5 - PART No. 729021



ITEM. 11
MODEL STE - PART No. 534210



I PARTS LIST

| ITEM NO. | QTY. | DESCRIPTION | PART NO. |
|----------|----------|--|---------------|
| 1 | 3 | Screw | 543311 |
| 2 | 1 | Self-tailing arm | 596751 |
| 3 | 1 | Self-tailing top complete Model ST | 537551 |
| 3 | 1 | Self-tailing top complete Model ST FS | 537511 |
| 3.1 | 1 | Circlip | 726400U |
| 3.2 | 1 | Top ring | 782100 |
| 3.3 | 6 | Screw | 781811 |
| 3.4 | 1 | Disc Model ST (537551 only) | 726310 |
| 4 | 1 | Drum complete | 729110 |
| 5 | 1 | Drive shaft complete | 729021 |
| 5.1 | 1 | Drive shaft | 729011 |
| 5.2 | 4 | Arm spring | 713300 |
| 5.3 | 4 | Pawl | 713200 |
| 6 | 1 | Shaft ring | 729750 |
| 7 | 1 | Roller bearing complete | 727400 |
| 8 | 2 | Bushing (not removable) | 716501 |
| 9 | 1 | Ratchet gear all models | 711701 |
| 10 | 1 | Gear Wheel complete | 711710 |
| 11 | 1 | Ratchet gear Model ST | 536100 |
| 11.1 | 4 | Bushing | RD100492 |
| 11.2 | 1 | Ratchet gear Wheel STE/STE AD BD | 534200 |
| 12 | 1 | Bushing | 729501 |
| 13 | 1 | Cover | 729503 |
| 14 | 1 | Circlip | 729502U |
| 15 | 1 | Base | 731850 |
| | 1 | Service kit 18 (not included) | 710018 |

MOUNTING INSTRUCTIONS

Installing the winch is easy, if you follow these instructions. The numbers in () refer to the position numbers in the parts list.

Tools required for the installation:

- Allen key (4 mm)
- Allen key (5 mm)
- Ø6.5 mm (1/4") drill
- Bedding compound
- 5 x M6 (1/4") countersunk head screws and corresponding nuts (length depending on deck thickness)
- 5 x large washers or backing plate
- Ring spanner to match nuts

1. Remove screws (1).
2. Remove self-tailing arm (2) and drum (4).
3. Mark location of boltholes using the template.

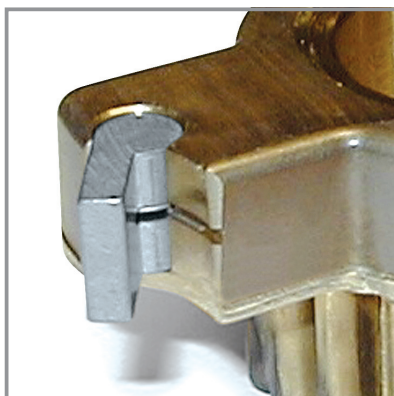
IMPORTANT: On the 34ST the self-tailing arm (2) is fixed in one position.

Ensure correct positioning of the self-tailing arm, before marking the bolt holes.

Drill bolt holes Ø6.5mm (1/4"). Be sure that no dust comes into contact with the winch while drilling.

5. Apply a light coat of bedding compound, ensuring that each bolthole is bedded. Keep drain grooves clear.
6. Fasten base (15) into place using 5 pieces. M6 (1/4") countersunk head screws. Use large washers or a backing plate.
7. Assemble in reverse order.
8. Check that the winch is functioning correctly:
 - The drum should operate smoothly, when turning the drum clockwise by hand.
 - The drum must not turn when trying to turn the drum anti clockwise by hand.
 - While turning the winch handle clockwise the drum should turn slowly.
 - While turning the winch handle anti clockwise the drum should turn quickly.

PAWL SPRING MOUNTING



Note the curved spring "arm"

SERVICE INSTRUCTIONS

Tools required for service:

- Allen key (4 mm)
- Winch handle
- Screwdriver (small)
- ANDERSEN winch grease

1. Remove screws (1).
2. Remove self-tailing arm (2) and drum (4).
3. Insert a winch handle. Pull up the drive shaft (5) gently, while turning gear wheel (10) and ratchet gear (9) carefully. Remove drive shaft (5).
4. Remove plugs (5.4), pawls (5.3) and arm springs (5.2).
5. Remove ratchet gear (9).
6. Remove shaft ring (6). It can be difficult to get the shaft over the top of the base (15). By turning and tilting the shaft, it will come off. DO NOT use violence.
7. Remove gear wheel (10).
8. To release the roller bearing (7), gently insert a small screwdriver between roller bearing, and base (15). Remove roller bearing.
9. The ratchet gear (11) should be cleaned without being removed from the base (15).
10. Clean all parts in white spirits/mineral spirits. Remember to clean the gear teeth and roller bearing track inside the drum (4).
11. Assemble in reverse order. During assemble, by the use of a small soft brush lightly grease all gear teeth, drive shaft, roller bearing, shafts, pawls, springs and bushings. Pawls should only be lubricated with a very thin film of ANDERSEN WINCH GREASE. It is very important that pawls can move freely.

IMPORTANT: When assembling the winch, check the functioning of each pawl by pushing the pawl against the spring. The pawls should move smoothly and automatically return to their normal position, where the pawls engage with the teeth. If the pawls do not function correctly, clean and lubricate the pawls and gears. Check the function of the pawls again to make sure that it works correctly. If the pawls do not work correctly replace the springs and recheck the functioning.

Malfunctioning pawls may lead to unexpected release of the winch force resulting in fatal injuries to the user and others.

Service Kit No: 18 (part. no. 710018) contains spare parts for this winch.

Maintenance instructions for PVD coated stainless steel surfaces.

PVD-coated surfaces should be rinsed regularly in fresh water to remove any salt residue, dirt or other contaminants and dried gently with a soft cloth. To remove grease or other marks, a mild abrasive free cleaning agent such as spray-on glass cleaning solution may be used. No caustic detergents or other aggressive or abrasive cleaning agents should ever be used, as they may damage the surface.

GENERAL INFORMATION

Due to the best choice of materials and high precision in manufacturing, we recommend, for normal use, only to dismantle, clean and lubricate the winch once every second year. Under extensive use, such as racing, charter or blue water sailing, we recommend to lubricate the winch once every year.

We strongly recommend always to use ANDERSEN WINCH GREASE, when lubricating your winch. ANDERSEN WINCH GREASE is a high quality silicone/Teflon grease product.

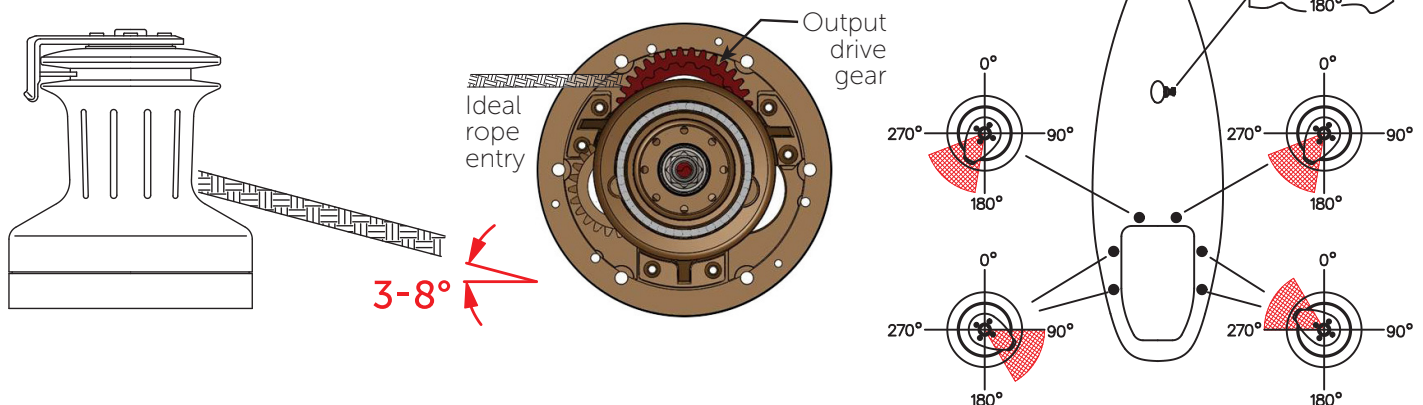
Most other types of grease, including "marine grease" are not suitable for lubrication of winches. Non-suitable grease products can cause malfunction, which could result in fatal injuries for the user and others.

Pawl arm springs should be replaced every second year. Spare arm springs and other parts that may be required are included in the ANDERSEN Service Kit. Please refer to the service instruction for the Service Kit suitable for the specific winch.

When the winch handle is not in use but the winch is under load, we recommend, from a safety point of view, to remove the winch handle from the winch.

To ensure correct function of the self-tailing unit, only use recommended line sizes. When using the winch with mooring lines DO NOT use the self-tailing function and be sure that the mooring line is not in contact with the self-tailing arm.

To ensure the best possible functioning of the winch, we recommend that the winch is placed in accordance with the line entry (shown below).



Be also aware that the self-tailing arm is positioned correctly. We recommend to have the self-tailing arm positioned within the shaded area (shown above). On this model the self-tailing arm is fixed, making it very important to establish the proper location of the holes prior to drilling these in the deck.

To identify the Output Drive Gear, insert a winch handle into the winch and rotate in both directions, the drive gear will only rotate clockwise in a fast and slow speed.

I SAFETY NOTICES

I ALL WINCHES



Read All Safety Notices and Product Manuals

Do not install or operate this winch before reading and fully understanding the contents of this Product Manual.



Stay Alert When Operating

Andersen winches are very powerful and have the potential to cause significant damage and/or serious injury if used improperly or without due caution and vigilance.



Operators Must be Trained

Help prevent significant damage and/or serious injury by ensuring any person operating a winch has a thorough understanding of its proper operation and is aware of the potential hazards involved. As a minimum, all winch operators must read and understand this Safety Notice Sheet and the Product Manual.

Particular attention is drawn to the following points:

- Children and others not qualified to operate an electric winch must be kept at a safe distance from the winch and any rigging or fittings that are under load.
- Long hair and/or loose clothing must be tied back to avoid being caught in the winch.
- In the event of a rope override or other fault, stop the winch and turn off power before attempting to resolve the problem.



Avoid Accidental Operation

Remove winch handles and turn off power to the winch when not in use to help avoid unsupervised or unintentional operation. Failure to do so could result in significant damage and/or serious injury.



Maintenance

Turn off power to the winch before performing any maintenance or service tasks. Failure to do so could result in significant damage and/or serious injury.



Lifting Operations

The winch must not be operated with the rope in the self tailer when used in any kind of lifting operation.

Any lifting operations should be conducted by two persons in order to maintain constant visual contact with the object being lifted.

Furthermore the self tailer must not be used as a cleat for a rope used to lift or suspend any object. The rope must be secured properly by tying off, or leading to a suitable fitting such as a cleat or bollard.

Failure to observe these precautions could result in serious injury or death.

I DO NOT DISCARD



PRODUCT MANUAL

34ST (V.2.0) | 34ST FS (V.2.0.F)

p8

| WORLDWIDE DISTRIBUTION & SERVICE

| Visit www.andersenwinches.com

| WARRANTY

| Visit www.ronstan.com/warranty

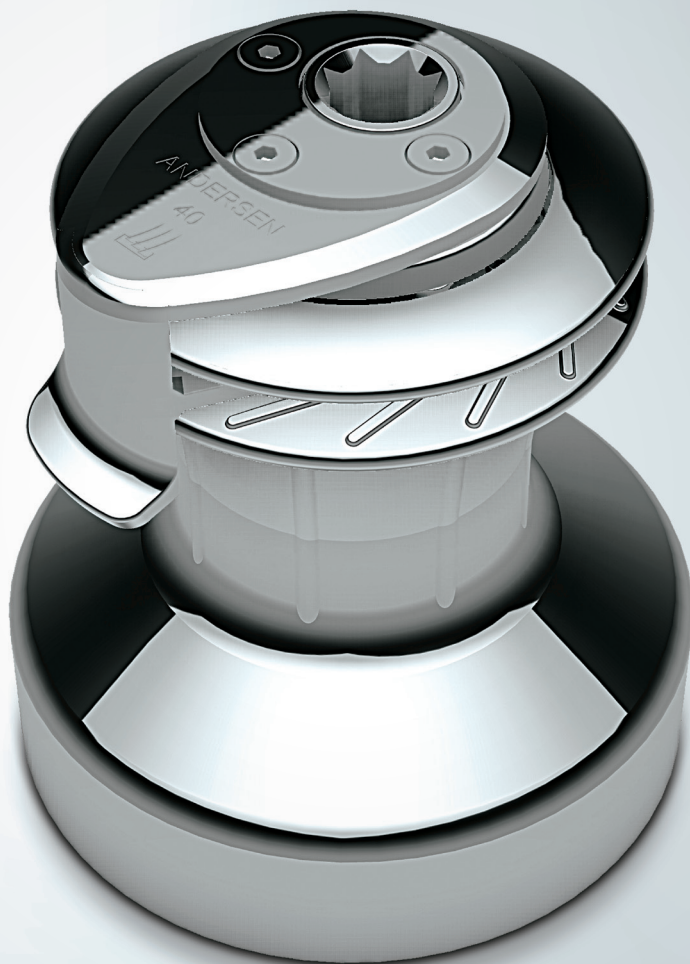
Manufactured by Ronstan Denmark ApS.
Jægersvænget 36 - 7100 Vejle - Denmark
office@ronstan.dk - www.andersenwinches.com



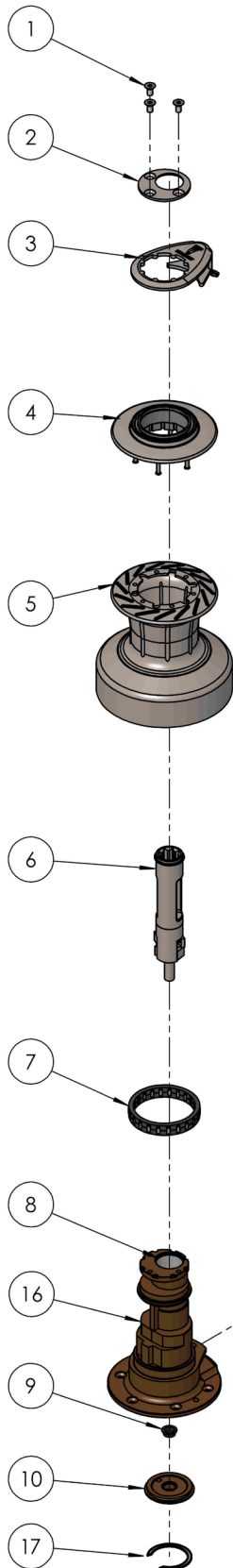
PRODUCT MANUAL

40ST (V.6.0)

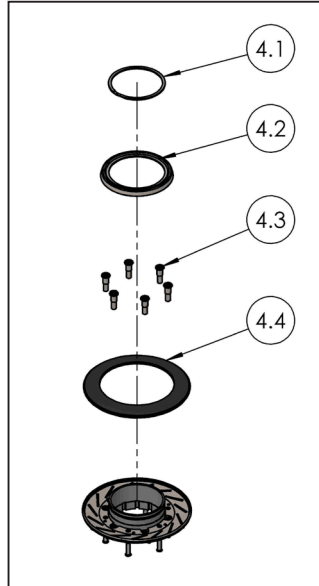
40ST FS (V.6.0.F)



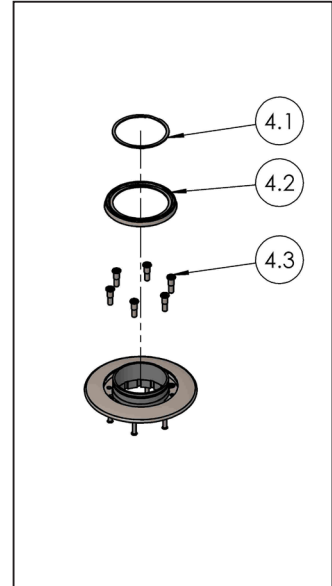
EXPLODED VIEW



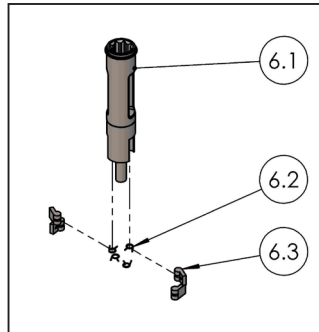
ITEM. 4
MODEL ST - PART No. 537452



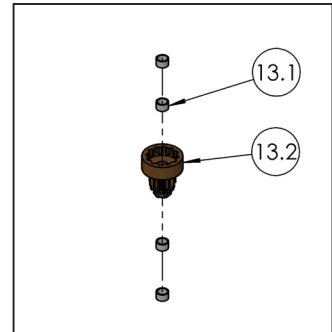
ITEM. 4
MODEL ST FS - PART No. 537412



ITEM. 6 - PART No. 535321



ITEM. 13 Version 3.4 >
MODEL STE/STE BD - PART No. 532860
MODEL STE AD - PART No. 534210



I PARTS LIST

| ITEM NO. | QTY. | DESCRIPTION | PART NO. |
|----------|----------|--|---------------|
| 1 | 3 | Screw | 543311 |
| 2 | 1 | Top cap | 535104 |
| 3 | 1 | Self-tailing arm | 535220 |
| 4 | 1 | Self-tailing top complete Model ST | 537452 |
| 4 | 1 | Self-tailing top complete Model ST FS | 537412 |
| 4.1 | 1 | Circlip | 590300U |
| 4.2 | 1 | Top ring | 782211 |
| 4.3 | 4 | Screw | 781811 |
| 4.4 | 1 | Disc - Model ST (537452 only) | 535510 |
| 5 | 1 | Drum complete | 535411 |
| 6 | 1 | Drive shaft complete | 535321 |
| 6.1 | 1 | Drive shaft | 535311 |
| 6.2 | 4 | Arm spring | 713300 |
| 6.3 | 4 | Pawl | 713200 |
| 7 | 1 | Roller bearing complete | 727400 |
| 8 | 2 | Bushing (not removable) | 716501 |
| 9 | 1 | Bushing | 729501 |
| 10 | 1 | Cover | 729503 |
| 11 | 1 | Bushing | 536000 |
| 12 | 1 | Ratchet gear all models | 711701 |
| 13 | 1 | Ratchet gear Model ST | 536100 |
| 13 | 1 | Ratchet gear Model STE/STE BD | 532860 |
| 13 | 1 | Ratchet gear Model STE AD | 534210 |
| 13.1 | 4 | Bushing | RD100492 |
| 13.2 | 1 | Ratchet gear wheel STE/STE BD | 532850 |
| 13.2 | 1 | Ratchet gear wheel STE AD | 534200 |
| 14 | 1 | Shaft | 536400 |
| 15 | 1 | Gear wheel | 729603 |
| 16 | 1 | Base | 741210 |
| 17 | 1 | Circlip | 729502U |
| | 1 | Service kit 1 (not included) | 710001 |

I MOUNTING INSTRUCTIONS

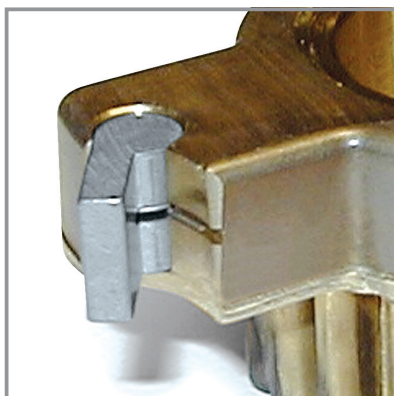
Installing the winch is easy, if you follow these instructions. The numbers in () refer to the position numbers in the parts list.

Tools required for the installation:

- Hex key (4 mm)
- Hex key (5 mm)
- Ø6.5 mm (1/4") drill
- Bedding compound
- 5 x M6 (1/4") countersunk head screws and corresponding nuts (length depending on deck thickness)
- 5 x large washers or backing plate
- Ring spanner to match nuts

1. Drill bolt holes Ø6,5mm (1/4") using the winch template.
Be sure that no dust comes in contact with the winch, while drilling.
2. Remove screw (1) and top cap (2).
3. Remove self-tailing arm (3) and drum (5).
4. Apply a light coat of bedding compound on the bottom of the base (16).
Ensure that each bolt hole is bedded. Keep drain grooves clear.
5. Fasten base (16) into place using 5 pcs. M6 (1/4") countersunk head screws.
Use large washers or a backing plate.
6. Assemble in reverse order.
7. Check that the winch is functioning correctly:
 - The drum should operate smoothly, when turning the drum clockwise by hand.
 - The drum must not turn when trying to turn the drum anti clockwise by hand.
 - While turning the winch handle clockwise the drum should turn slowly.
 - While turning the winch handle anti clockwise the drum should turn quickly.

PAWL SPRING MOUNTING



Note the curved
spring "arm"

SERVICE INSTRUCTIONS

Tools required for service:

- Hex key (4 mm)
- Winch handle
- Screwdriver (medium)
- ANDERSEN winch grease

1. Remove screw (1) and top cap (2).
2. Remove self-tailing arm (3) and drum (5).
3. Insert a winch handle. Pull up the drive shaft (6) gently, while turning gear wheel (15) and ratchet gear (12) carefully. Remove drive shaft (6).
4. Remove plugs (6.4), pawls (6.3) and arm springs (6.2).
5. Remove ratchet gear (12) and bushing (11).
6. Remove ratchet gear (13).
7. To release the roller bearing (7), gently insert a small screwdriver between roller bearing and base (16). Remove roller bearing (7).
8. Remove shaft (14) and gear wheel (15). Use a screwdriver.
9. Clean all parts in white spirits/mineral spirits. Remember to clean the gear teeth.
10. Assemble in reverse order. During assemble, by the use of a small soft brush lightly grease all gear teeth, drive shaft, roller bearing, shafts, pawls, springs and bushings. Pawls should only be lubricated with a very thin film of ANDERSEN WINCH GREASE. It is very important that pawls can move freely.

IMPORTANT: When assembling the winch, check the functioning of each pawl by pushing the pawl against the spring. The pawls should move smoothly and automatically return to their normal position, where the pawls engage with the teeth. If the pawls do not function correctly, clean and lubricate the pawls and gears. Check the function of the pawls again to make sure that it works correctly. If the pawls do not work correctly replace the springs and recheck the functioning.

Malfunctioning pawls may lead to unexpected release of the winch force resulting in fatal injuries to the user and others.

Service Kit No: 1 (part. no. 710001) contains spare parts for this winch.

Maintenance instructions for PVD coated stainless steel surfaces.

PVD-coated surfaces should be rinsed regularly in fresh water to remove any salt residue, dirt or other contaminants and dried gently with a soft cloth. To remove grease or other marks, a mild abrasive free cleaning agent such as spray-on glass cleaning solution may be used. No caustic detergents or other aggressive or abrasive cleaning agents should ever be used, as they may damage the surface.

GENERAL INFORMATION

Due to the best choice of materials and high precision in manufacturing, we recommend, for normal use, only to dismantle, clean and lubricate the winch once every second year. Under extensive use, such as racing, charter or blue water sailing, we recommend to lubricate the winch once every year.

We strongly recommend always to use ANDERSEN WINCH GREASE, when lubricating your winch. ANDERSEN WINCH GREASE is a high quality silicone/Teflon grease product.

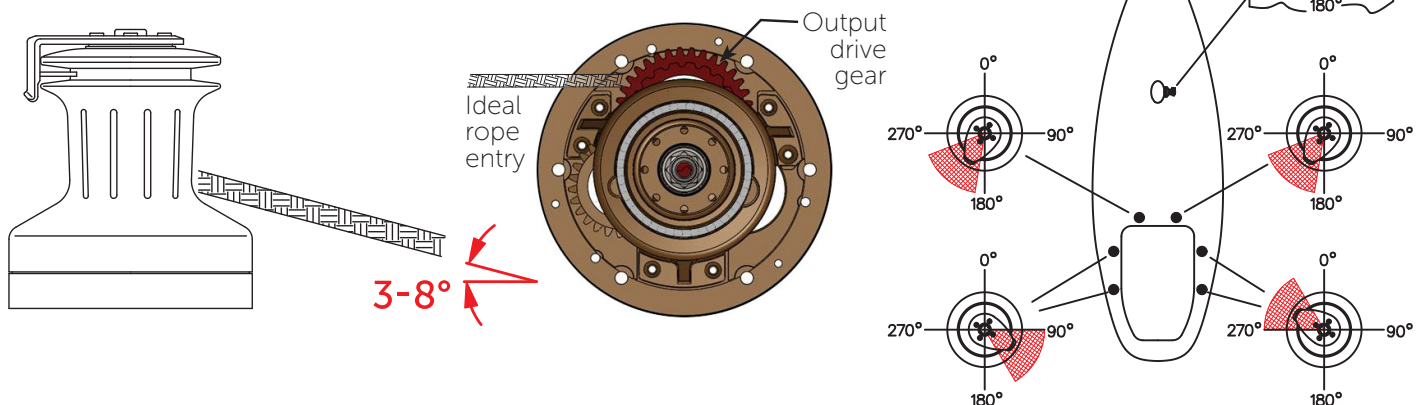
Most other types of grease, including "marine grease" are not suitable for lubrication of winches. Non-suitable grease products can cause malfunction, which could result in fatal injuries for the user and others.

Pawl arm springs should be replaced every second year. Spare arm springs and other parts that may be required are included in the ANDERSEN Service Kit. Please refer to the service instruction for the Service Kit suitable for the specific winch.

When the winch handle is not in use but the winch is under load, we recommend, from a safety point of view, to remove the winch handle from the winch.

To ensure correct function of the self-tailing unit, only use recommended line sizes. When using the winch with mooring lines DO NOT use the self-tailing function and be sure that the mooring line is not in contact with the self-tailing arm.

To ensure the best possible functioning of the winch, we recommend that the winch is placed in accordance with the line entry (shown below).



Be also aware that the self-tailing arm is positioned correctly. We recommend to have the self-tailing arm positioned within the shaded area (shown above). On this model the self-tailing arm can be placed in several different positions after having installed the winch.

To identify the Output Drive Gear, insert a winch handle into the winch and rotate in both directions, the drive gear will only rotate clockwise in a fast and slow speed.

I SAFETY NOTICES

I ALL WINCHES



Read All Safety Notices and Product Manuals

Do not install or operate this winch before reading and fully understanding the contents of this Product Manual.



Stay Alert When Operating

Andersen winches are very powerful and have the potential to cause significant damage and/or serious injury if used improperly or without due caution and vigilance.



Operators Must be Trained

Help prevent significant damage and/or serious injury by ensuring any person operating a winch has a thorough understanding of its proper operation and is aware of the potential hazards involved. As a minimum, all winch operators must read and understand this Safety Notice Sheet and the Product Manual.

Particular attention is drawn to the following points:

- Children and others not qualified to operate an electric winch must be kept at a safe distance from the winch and any rigging or fittings that are under load.
- Long hair and/or loose clothing must be tied back to avoid being caught in the winch.
- In the event of a rope override or other fault, stop the winch and turn off power before attempting to resolve the problem.



Avoid Accidental Operation

Remove winch handles and turn off power to the winch when not in use to help avoid unsupervised or unintentional operation. Failure to do so could result in significant damage and/or serious injury.



Maintenance

Turn off power to the winch before performing any maintenance or service tasks. Failure to do so could result in significant damage and/or serious injury.



Lifting Operations

The winch must not be operated with the rope in the self tailer when used in any kind of lifting operation.

Any lifting operations should be conducted by two persons in order to maintain constant visual contact with the object being lifted.

Furthermore the self tailer must not be used as a cleat for a rope used to lift or suspend any object. The rope must be secured properly by tying off, or leading to a suitable fitting such as a cleat or bollard.

Failure to observe these precautions could result in serious injury or death.

I DO NOT DISCARD



PRODUCT MANUAL

40ST (V.6.0) | 40ST FS (V.6.0.F)

p8

| WORLDWIDE DISTRIBUTION & SERVICE

| Visit www.andersenwinches.com

| WARRANTY

| Visit www.ronstan.com/warranty

Manufactured by Ronstan Denmark ApS.
Jægervænget 36 - 7100 Vejle - Denmark
office@ronstan.dk - www.andersenwinches.com



PRODUCT MANUAL

46ST (V.5.0)

46ST FS (V.5.0.F)

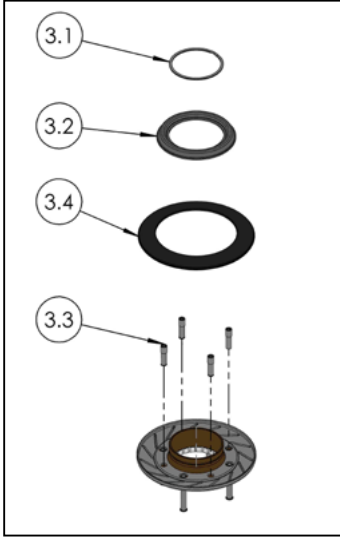
50ST (V.2.0)

50ST FS (V.2.0.F)

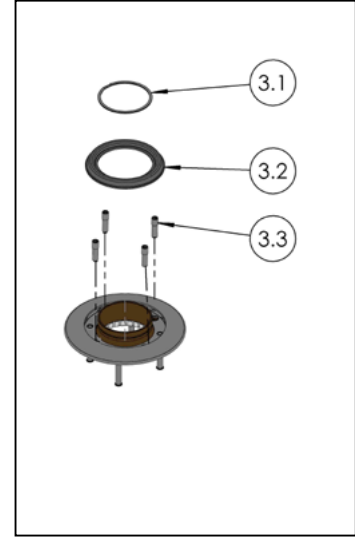


EXPLODED VIEW

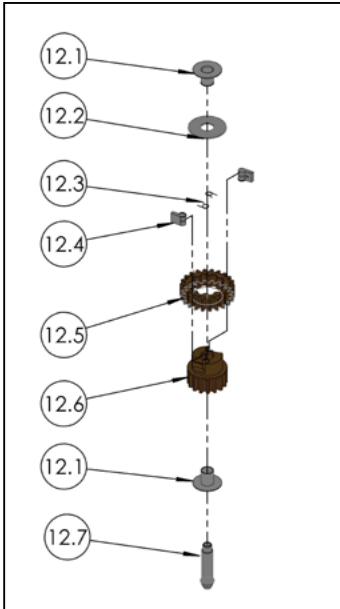
ITEM. 3
MODEL ST - PART No. 544521



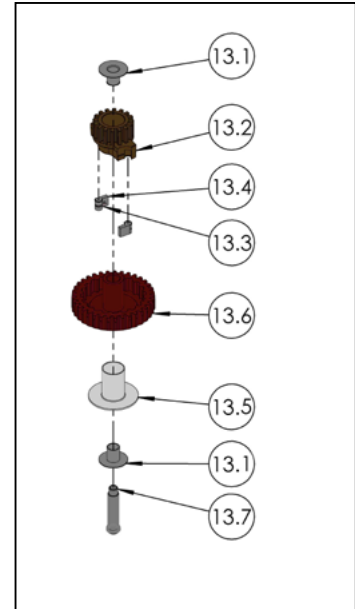
ITEM. 3
MODEL ST FS - PART No. 544530



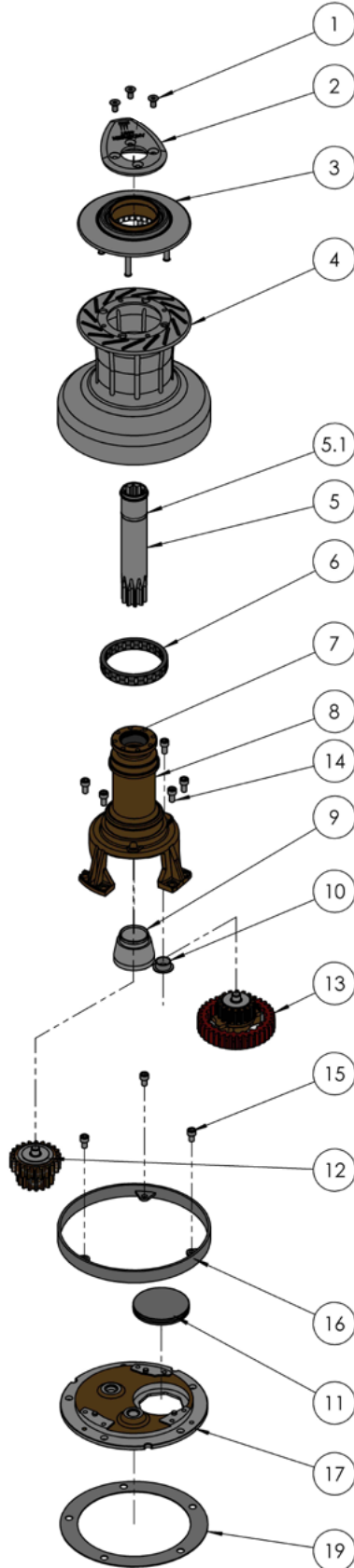
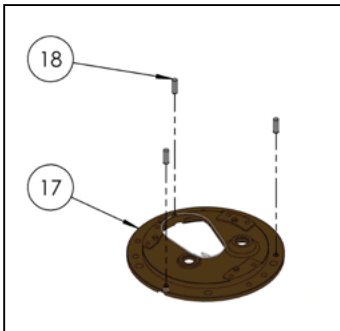
ITEM. 12 - PART No. 775600/775650



ITEM. 13 - PART No. 775500



ITEM. 17
MODEL STE AD - PART No. 748102



I PARTS LIST

| ITEM NO. | QTY. | DESCRIPTION | PART NO. |
|----------|----------|---|-----------------|
| 1 | 3 | Screw | 543311 |
| 2 | 1 | Self-tailing arm - Model 46ST | 734316 |
| 2 | 1 | Self-tailing arm - Model 50ST | 734411 |
| 3 | 1 | Self-tailing top complete - Model ST | 544521 |
| 3 | 1 | Self-tailing top complete - Model ST FS | 544530 |
| 3.1 | 1 | Circlip | 590300U |
| 3.2 | 1 | Top ring | 595010 |
| 3.3 | 4 | Screw | 585100 |
| 3.4 | 1 | Disc - Model ST (544521 only) | RA712210 |
| 4 | 1 | Drum complete | 735901 |
| 5 | 1 | Drive shaft complete | 782801 |
| 5.1 | 1 | O-ring | RD100302 |
| 6 | 1 | Roller bearing complete | 727400 |
| 7 | 1 | Bushing (not removable) | 716503 |
| 8 | 1 | Upper base plate with bushings | 775400 |
| 9 | 1 | Bearing bushing (not removable) | 734900 |
| 10 | 1 | Bushing | RD877000 |
| 11 | 1 | Plug for deck plate | 783900 |
| 12 | 1 | Small ratchet gear complete - Model 46ST | 775600 |
| 12 | 1 | Small ratchet gear complete - Model 50ST | 775650 |
| 12.1 | 2 | Bushing | 981410 |
| 12.2 | 1 | Washer | 524300 |
| 12.3 | 2 | Pawl | 713200 |
| 12.4 | 2 | Arm spring | 713300 |
| 12.5 | 1 | Ratchet gear wheel - Model 46ST | 523000 |
| 12.5 | 1 | Ratchet gear wheel - Model 50ST | 523050 |
| 12.6 | 1 | Gear wheel | 523802 |
| 12.7 | 1 | Shaft for small ratchet gear | 980300 |
| 13 | 1 | Ratchet gear complete | 775500 |
| 13.1 | 2 | Bushing | 981410 |
| 13.2 | 1 | Pawl gear wheel | 523903 |
| 13.3 | 2 | Arm spring | 713300 |
| 13.4 | 2 | Pawl | 713200 |
| 13.5 | 1 | Bushing | 525500 |
| 13.6 | 1 | Ratchet gear wheel | 525300 |
| 13.7 | 1 | Shaft for ratchet gear | 980410 |
| 14 | 6 | Screw | DIN912-A4-M6X12 |
| 15 | 3 | Screw | DIN912-A4-M6X8 |
| 16 | 1 | Basecover | 735321 |
| 17 | 1 | Deck plate for STE Below Deck Motor and manual operated winch | 746801 |
| 17 | 1 | Deck plate STE Above Deck Compact Motor | 748102 |
| 18 | 3 | Pin | 713401 |
| 19 | 1 | Sealing for aluminium deck (not included) | 775800 |
| | 1 | Service kit 19 (not included) | 710019 |

I MOUNTING INSTRUCTIONS

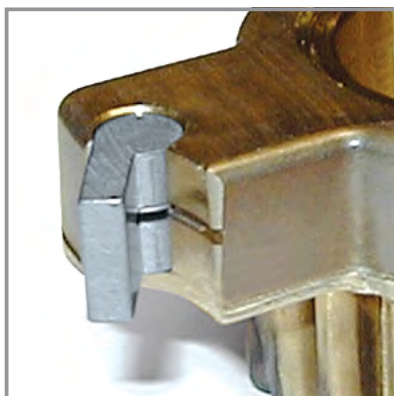
Installing the winch is easy, if you follow these instructions. The numbers in () refer to the position numbers in the parts list.

Tools required for the installation:

- Allen key (4 mm)
- Allen key (5 mm)
- Allen key (6 mm)
- Ø8.5 mm (11/32") drill
- Bedding compound
- 5 x M8 (5/16") countersunk head screws and corresponding nuts (length depending on deck thickness)
- 5 x large washers or backing plate
- Ring spanner to match nuts

1. Drill bolt holes Ø8,5mm (11/32") using the winch template.
Be sure that no dust comes in contact with the winch, while drilling.
2. Remove screws (1).
3. Remove self-tailing arm (2) and drum (4).
4. Apply a light coat of bedding compound, ensuring that each bolt hole is bedded.
Keep drain grooves clear.
5. Fasten lower base (19) into place using 5 pcs. M8 (5/16") bolts.
Use large washers or a backing plate.
6. Assemble in reverse order.
7. Check that the winch is functioning correctly:
 - The drum should operate smoothly, when turning the drum clockwise by hand.
 - The drum must not turn when trying to turn the drum anti clockwise by hand.
 - While turning the winch handle clockwise the drum should turn slowly.
 - While turning the winch handle anti clockwise the drum should turn quickly.

PAWL SPRING MOUNTING



Note the curved
spring "arm"

SERVICE INSTRUCTIONS

Tools required for service:

- Allen key (4 mm)
- Allen key (5 mm)
- Screwdriver (small)
- Winch handle
- ANDERSEN winch grease

1. Remove screws (1).
2. Remove self-tailing arm (2) and drum (4).
3. Remove screws (14).
4. Remove upper base (8), and place it in a safe and comfortable place before dismantling it.
5. Remove drive shaft (5) by using a finger or a winch handle.
6. To release the roller bearing (6), gently insert a small screwdriver between roller bearing and base plate (8). Remove roller bearing.
7. Remove shafts (12.7, 13.7).
8. Remove and dismantle the two gear units.
9. Clean all parts in white spirits/mineral spirits. Remember to clean the gear teeth, roller bearing track and bushing inside the drum (4).
10. Assemble in reverse order. During assemble, by the use of a small soft brush lightly grease all gear teeth, drive shaft, roller bearing, shafts, pawls, springs and bushings. Pawls should only be lubricated with a very thin film of ANDERSEN WINCH GREASE. It is very important that pawls can move freely.

IMPORTANT: When assembling the winch, check the functioning of each pawl by pushing the pawl against the spring. The pawls should move smoothly and automatically return to their normal position, where the pawls engage with the teeth. If the pawls do not function correctly, clean and lubricate the pawls and gears. Check the function of the pawls again to make sure that it works correctly. If the pawls do not work correctly replace the springs and recheck the functioning.

Malfunctioning pawls may lead to unexpected release of the winch force resulting in fatal injuries to the user and others.

Service Kit No: 19 (part. no. 710019) contains spare parts for this winch.

Maintenance instructions for PVD coated stainless steel surfaces.

PVD-coated surfaces should be rinsed regularly in fresh water to remove any salt residue, dirt or other contaminants and dried gently with a soft cloth. To remove grease or other marks, a mild abrasive free cleaning agent such as spray-on glass cleaning solution may be used. No caustic detergents or other aggressive or abrasive cleaning agents should ever be used, as they may damage the surface.

GENERAL INFORMATION

Due to the best choice of materials and high precision in manufacturing, we recommend, for normal use, only to dismantle, clean and lubricate the winch once every second year. Under extensive use, such as racing, charter or blue water sailing, we recommend to lubricate the winch once every year.

We strongly recommend always to use ANDERSEN WINCH GREASE, when lubricating your winch. ANDERSEN WINCH GREASE is a high quality silicone/Teflon grease product.

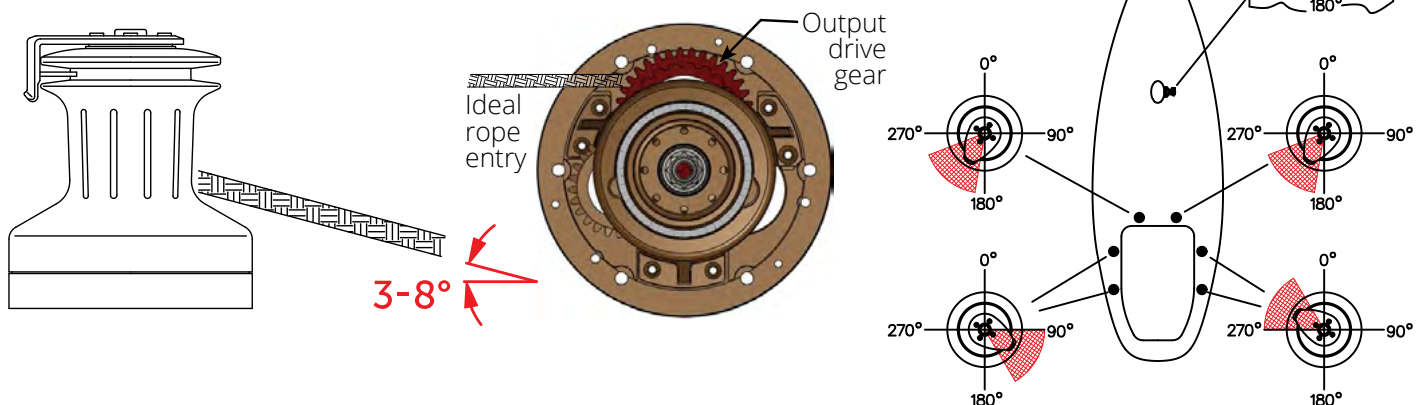
Most other types of grease, including "marine grease" are not suitable for lubrication of winches. Non-suitable grease products can cause malfunction, which could result in fatal injuries for the user and others.

Pawl arm springs should be replaced every second year. Spare arm springs and other parts that may be required are included in the ANDERSEN Service Kit. Please refer to the service instruction for the Service Kit suitable for the specific winch.

When the winch handle is not in use but the winch is under load, we recommend, from a safety point of view, to remove the winch handle from the winch.

To ensure correct function of the self-tailing unit, only use recommended line sizes. When using the winch with mooring lines DO NOT use the self-tailing function and be sure that the mooring line is not in contact with the self-tailing arm.

To ensure the best possible functioning of the winch, we recommend that the winch is placed in accordance with the line entry (shown below).



Be also aware that the self-tailing arm is positioned correctly. We recommend to have the self-tailing arm positioned within the shaded area (shown above). On this model the self-tailing arm can be placed in several different positions after having installed the winch.

To identify the Output Drive Gear, insert a winch handle into the winch and rotate in both directions, the drive gear will only rotate clockwise in a fast and slow speed.

I SAFETY NOTICES

I ALL WINCHES



Read All Safety Notices and Product Manuals

Do not install or operate this winch before reading and fully understanding the contents of this Product Manual.



Stay Alert When Operating

Andersen winches are very powerful and have the potential to cause significant damage and/or serious injury if used improperly or without due caution and vigilance.



Operators Must be Trained

Help prevent significant damage and/or serious injury by ensuring any person operating a winch has a thorough understanding of its proper operation and is aware of the potential hazards involved. As a minimum, all winch operators must read and understand this Safety Notice Sheet and the Product Manual.

Particular attention is drawn to the following points:

- Children and others not qualified to operate an electric winch must be kept at a safe distance from the winch and any rigging or fittings that are under load.
- Long hair and/or loose clothing must be tied back to avoid being caught in the winch.
- In the event of a rope override or other fault, stop the winch and turn off power before attempting to resolve the problem.



Avoid Accidental Operation

Remove winch handles and turn off power to the winch when not in use to help avoid unsupervised or unintentional operation. Failure to do so could result in significant damage and/or serious injury.



Maintenance

Turn off power to the winch before performing any maintenance or service tasks. Failure to do so could result in significant damage and/or serious injury.



Lifting Operations

The winch must not be operated with the rope in the self tailer when used in any kind of lifting operation.

Any lifting operations should be conducted by two persons in order to maintain constant visual contact with the object being lifted.

Furthermore the self tailer must not be used as a cleat for a rope used to lift or suspend any object. The rope must be secured properly by tying off, or leading to a suitable fitting such as a cleat or bollard.

I Failure to observe these precautions could result in serious injury or death.

I DO NOT DISCARD



PRODUCT MANUAL

46ST (V.5.0) | 46ST FS (V.5.0.F) | 50ST (V.2.0) | 50ST FS (V.2.0.F)

p8

| WORLDWIDE DISTRIBUTION & SERVICE

| Visit www.andersenwinches.com

| WARRANTY

| Visit www.ronstan.com/warranty

Manufactured by Ronstan Denmark ApS.
Jægervænget 36 - 7100 Vejle - Denmark
office@ronstan.dk - www.andersenwinches.com



PRODUCT MANUAL

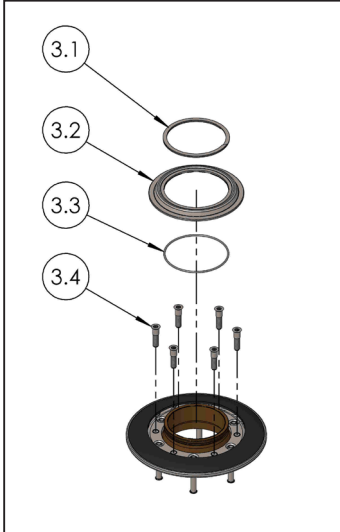
52ST (V.4.0)

52ST FS (V.4.0.F)

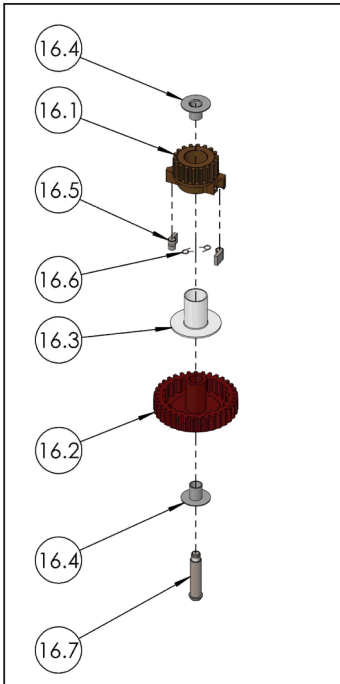


EXPLODED VIEW

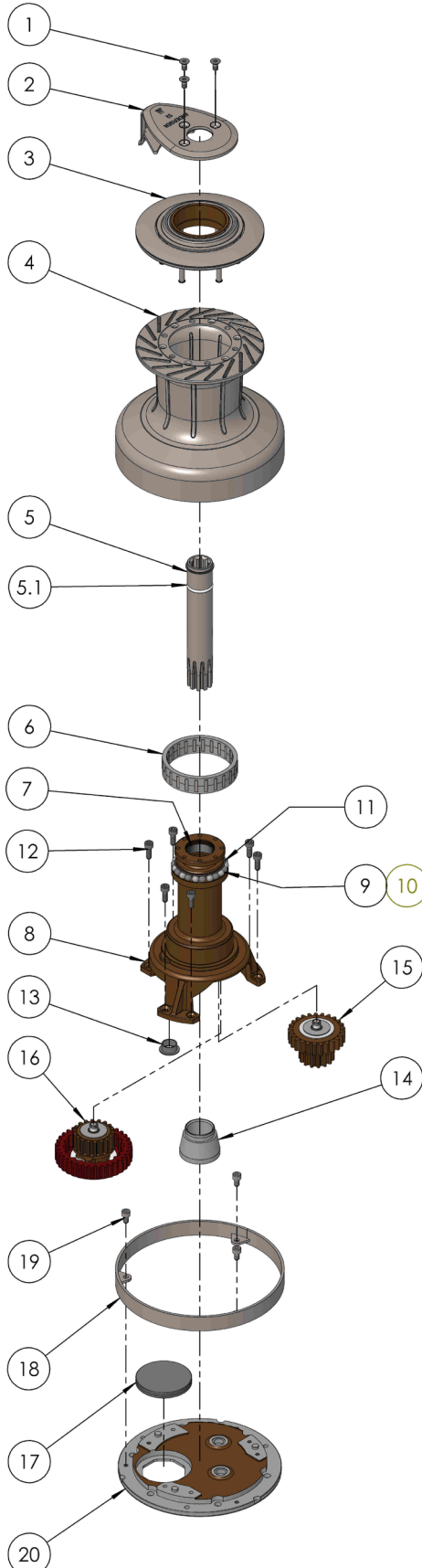
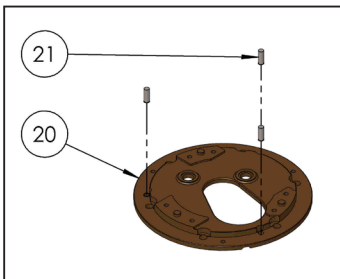
ITEM. 3
MODEL ST - PART No. 540406



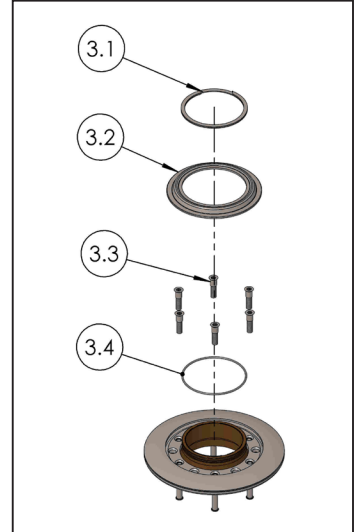
ITEM. 16 - PART No. 589111



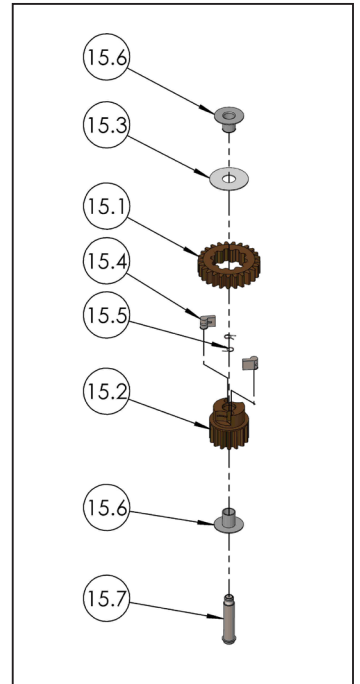
ITEM. 20
MODEL STE AD - PART No. 746920



ITEM. 3
MODEL ST FS - PART No. 540411



ITEM. 15 - PART No. 589501



| ITEM NO. | QTY. | DESCRIPTION | PART NO. |
|----------|----------|---|-----------------|
| 1 | 3 | Screw | 543311 |
| 2 | 1 | Self-tailing arm | 594101 |
| 3 | 1 | Self-tailing top complete - Model ST | 540406 |
| 3 | 1 | Self-tailing top complete - Model ST FS | 540411 |
| 3.1 | 1 | Circlip | 591000U |
| 3.2 | 1 | Top Ring | 521305 |
| 3.3 | 1 | O-ring | RD100431 |
| 3.4 | 6 | Screw | 585160 |
| 4 | 1 | Drum complete | 734401 |
| 5 | 1 | Drive shaft complete | 782812 |
| 5.1 | 1 | O-ring | RD100302 |
| 6 | 1 | Roller Bearing Complete | 525905 |
| 7 | 1 | Bushing (not removable) | 716503 |
| 8 | 1 | Upper Base | 742310 |
| 9 | 12 | Ball, POM | 526302 |
| 10 | 11 | Ball, stainless steel | 526301 |
| 11 | 1 | Retaining ring | 526600 |
| 12 | 6 | Screw | DIN912-A4-M6x16 |
| 13 | 1 | Bushing | 877000 |
| 14 | 1 | Bearing bushing (not removable) | 734900 |
| 15 | 1 | Small Ratchet gear complete | 589501 |
| 15.1 | 1 | Ratchet Gear Wheel | 525200 |
| 15.2 | 1 | Gear Wheel | 525103 |
| 15.3 | 1 | Disc | 524300 |
| 15.4 | 2 | Pawl | 713200 |
| 15.5 | 2 | Arm spring | 713300 |
| 15.6 | 2 | Bushing | 981410 |
| 15.7 | 1 | Shaft for ratchet gear | 980410 |
| 16 | 1 | Ratchet gear complete | 589111 |
| 16.1 | 1 | Gear wheel | 525403 |
| 16.2 | 1 | Ratchet gear wheel | 525300 |
| 16.3 | 1 | Bushing | 525500 |
| 16.4 | 2 | Bushing | 981410 |
| 16.5 | 2 | Pawl | 713200 |
| 16.6 | 2 | Arm spring | 713300 |
| 16.7 | 1 | Shaft for ratchet gear | 980410 |
| 17 | 1 | Plug for deck plate | 783900 |
| 18 | 1 | Base Cover | 734321 |
| 19 | 3 | Screw | DIN912-A4-M6x10 |
| 20 | 1 | Deck Plate for Below Deck motor and manual operated winch Compact Motor | 746910 |
| 20 | 1 | Deck Plate for Above Deck STE Compact Motor | 746920 |
| 21 | 3 | Pin | 713401 |
| | 1 | Sealing for aluminium deck (not included) | 746990 |
| | 1 | Sevice kit No. 21 (Not included) | 710021 |

I MOUNTING INSTRUCTIONS

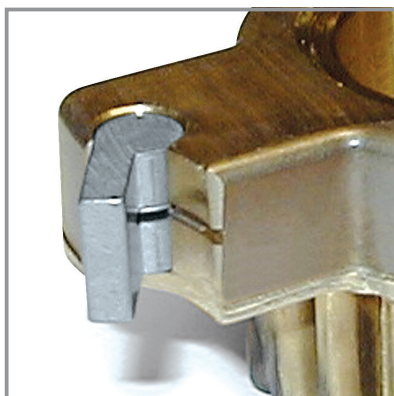
Installing the winch is easy, if you follow these instructions. The numbers in () refer to the position numbers in the parts list.

Tools required for the installation:

- Allen key (4 mm)
- Allen key (5 mm)
- Allen key (6 mm)
- Ø 8.5 mm. (11/32") drill
- Bedding compound
- 6 pcs. M8 (5/16") bolts and nuts (length depending on deck thickness)
- 6 x large washers or backing plate
- Ring spanner to match nuts

1. Drill bolt holes Ø8,5mm (11/32") using the winch template. Be sure that no dust comes in contact with the winch, while drilling.
2. Remove screws (1).
3. Remove self-tailing arm (2) and drum (4).
4. Apply a light coat of bedding compound, ensuring that each bolt hole is bedded. Keep drain grooves clear.
5. Fasten lower base (21) into place using 6 pcs. M8 (5/16") bolts. Use large washers or a backing plate.
6. Assemble in reverse order.
7. Check that the winch is functioning correctly:
 - The drum should operate smoothly, when turning the drum clockwise by hand.
 - The drum must not turn when trying to turn the drum anti clockwise by hand.
 - While turning the winch handle clockwise the drum should turn slowly.
 - While turning the winch handle anti clockwise the drum should turn quickly.

PAWL SPRING MOUNTING



Note the curved spring "arm"

SERVICE INSTRUCTIONS

Tools required for service:

- Allen key (4 mm)
- Allen key (5 mm)
- Screwdriver (small)
- Winch handle
- ANDERSEN winch grease

1. Remove screws (1).
2. Remove self-tailing arm (2) and drum (4).
3. Remove screws (12).
4. Remove upper base (8), and place it in a safe and comfortable place before dismantling it!
5. Remove drive shaft (5). by using a finger or a winch handle.
6. To release the roller bearing (6), gently insert a small screwdriver between roller bearing and base plate (8). Remove roller bearing.
7. Remove shafts (15.7, 16.7).
8. Remove and dismantle the two gear units.
9. Clean all parts in white spirits/mineral spirits. Remember to clean the gear teeth, roller bearing track and bushing inside the drum (4).
10. Assemble in reverse order. During assemble, lightly grease all gear teeth, drive shaft, roller bearing, shafts, pawls, springs and bushings by the use of a small soft brush. Pawls should only be lubricated with a very thin film of ANDERSEN WINCH GREASE. It is very important that pawls can move freely.

IMPORTANT: When assembling the winch, check the functioning of each pawl by pushing the pawl against the spring. The pawls should move smoothly and automatically return to their normal position, where the pawls engage with the teeth. If the pawls do not function correctly, clean and lubricate the pawls and gears. Check the function of the pawls again to make sure that it works correctly. If the pawls do not work correctly replace the springs and recheck the function.

Malfunctioning pawls may lead to unexpected failure of a loaded winch resulting in material damage or fatal personal injury.

Service Kit No. 21 (art. no. 710021) contains spare parts for this winch.

Maintenance instructions for PVD coated stainless steel surfaces.

PVD-coated surfaces should be rinsed regularly in fresh water to remove any salt residue, dirt or other contaminants and dried gently with a soft cloth. To remove grease or other marks, a mild abrasive free cleaning agent such as spray-on glass cleaning solution may be used. No caustic detergents or other aggressive or abrasive cleaning agents should ever be used, as they may damage the surface.

GENERAL INFORMATION

Due to the best choice of materials and high precision in manufacturing, we recommend, for normal use, only to dismantle, clean and lubricate the winch once every second year. Under extensive use, such as racing, charter or blue water sailing, we recommend to lubricate the winch once every year.

We strongly recommend always to use ANDERSEN WINCH GREASE, when lubricating your winch. ANDERSEN WINCH GREASE is a high quality silicone/Teflon grease product.

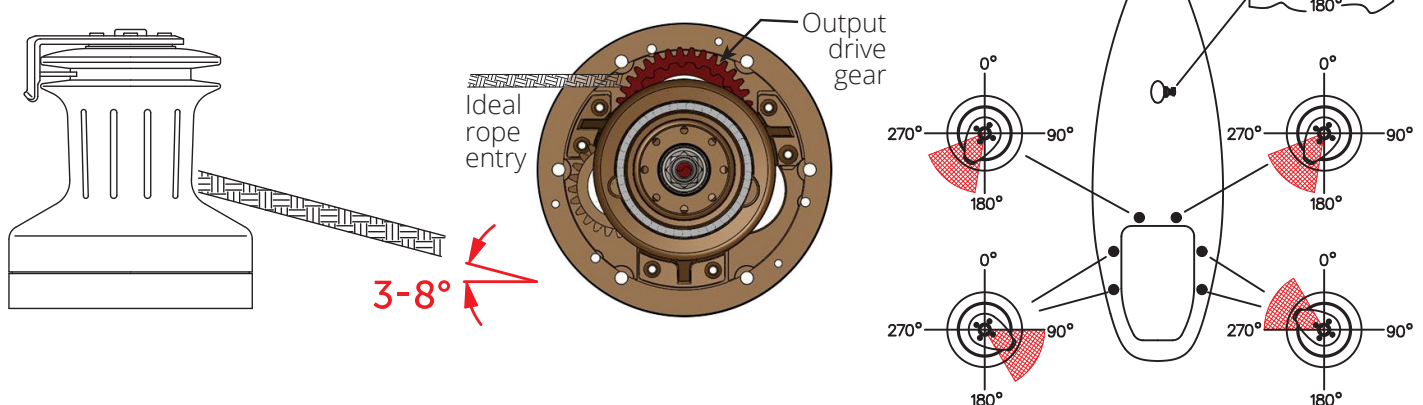
Most other types of grease, including "marine grease" are not suitable for lubrication of winches. Non-suitable grease products can cause malfunction, which could result in fatal injuries for the user and others.

Pawl arm springs should be replaced every second year. Spare arm springs and other parts that may be required are included in the ANDERSEN Service Kit. Please refer to the service instruction for the Service Kit suitable for the specific winch.

When the winch handle is not in use but the winch is under load, we recommend, from a safety point of view, to remove the winch handle from the winch.

To ensure correct function of the self-tailing unit, only use recommended line sizes. When using the winch with mooring lines DO NOT use the self-tailing function and be sure that the mooring line is not in contact with the self-tailing arm.

To ensure the best possible functioning of the winch, we recommend that the winch is placed in accordance with the line entry (shown below).



Be also aware that the self-tailing arm is positioned correctly. We recommend to have the self-tailing arm positioned within the shaded area (shown above). On this model the self-tailing arm can be placed in several different positions after having installed the winch.

To identify the Output Drive Gear, insert a winch handle into the winch and rotate in both directions, the drive gear will only rotate clockwise in a fast and slow speed.

I SAFETY NOTICES

I ALL WINCHES



Read All Safety Notices and Product Manuals

Do not install or operate this winch before reading and fully understanding the contents of this Safety Notice Sheet and Product Manual.



Stay Alert When Operating

Andersen winches are very powerful and have the potential to cause significant damage and/or serious injury if used improperly or without due caution and vigilance.



Operators Must be Trained

Help prevent significant damage and/or serious injury by ensuring any person operating a winch has a thorough understanding of its proper operation and is aware of the potential hazards involved. As a minimum, all winch operators must read and understand this Safety Notice Sheet and Product Manual.

Particular attention is drawn to the following points:

- Children and others not qualified to operate an electric winch must be kept at a safe distance from the winch and any rigging or fittings that are under load.
- Long hair and/or loose clothing must be tied back to avoid being caught in the winch.
- In the event of a rope override or other fault, stop the winch and turn off power before attempting to resolve the problem.



Avoid Accidental Operation

Remove winch handles and turn off power to the winch when not in use to help avoid unsupervised or unintentional operation. Failure to do so could result in significant damage and/or serious injury.



Maintenance

Turn off power to the winch before performing any maintenance or service tasks. Failure to do so could result in significant damage and/or serious injury.



Lifting Operations

The winch must not be operated with the rope in the self tailer when used in any kind of lifting operation.

Any lifting operations should be conducted by two persons in order to maintain constant visual contact with the object being lifted.

Furthermore the self tailer must not be used as a cleat for a rope used to lift or suspend any object. The rope must be secured properly by tying off, or leading to a suitable fitting such as a cleat or bollard.

I Failure to observe these precautions could result in serious injury or death.

I DO NOT DISCARD



PRODUCT MANUAL

52ST (V.4.0) | 52ST FS (V.4.0.F)

p8

| WORLDWIDE DISTRIBUTION & SERVICE

| Visit www.andersenwinches.com

| WARRANTY

| Visit www.ronstan.com/warranty

Manufactured by Ronstan Denmark ApS.
Jægervænget 36 - 7100 Vejle - Denmark
office@ronstan.dk - www.andersenwinches.com



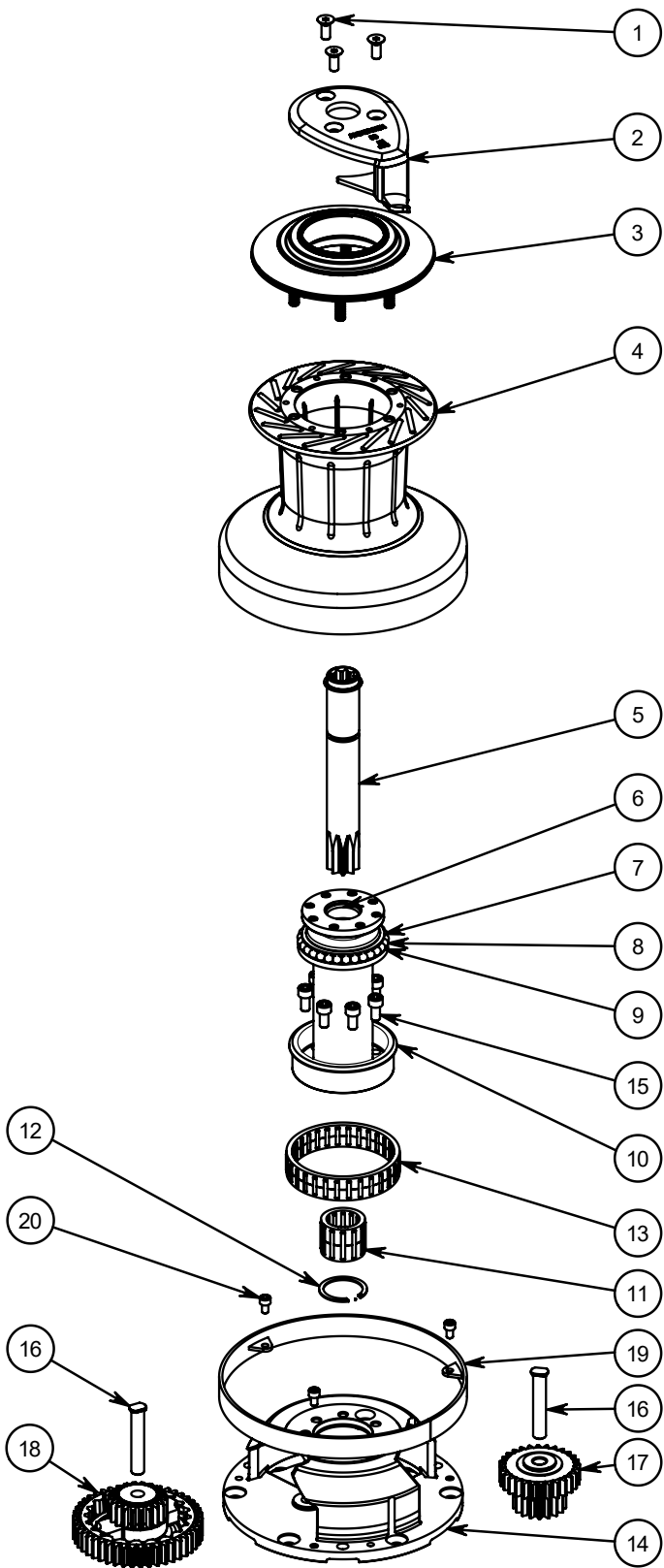
PRODUCT MANUAL

58ST FS (V.2.1.F)

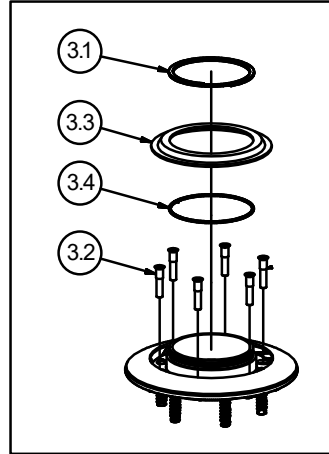
62ST FS (V.2.1.F)



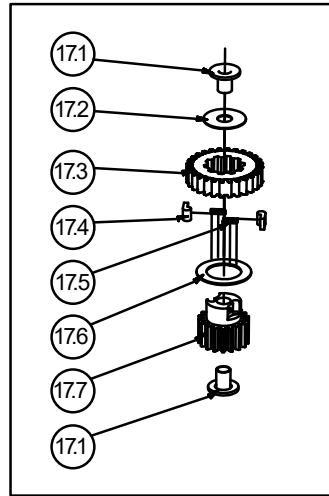
EXPLODED VIEW



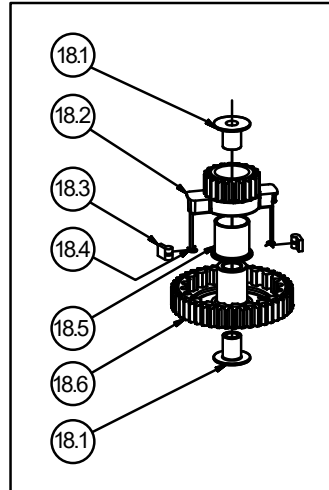
ITEM No. 3 - 736111



ITEM No. 17 - 775700



ITEM No. 18 - 774700



I PARTS LIST

| ITEM NO. | QTY. | DESCRIPTION | PART NO. |
|----------|----------|--|-----------------|
| 1 | 3 | Screw | 543312 |
| 2 | 1 | Self-tailing arm - Model 58ST | 544601 |
| 2 | 1 | Self-tailing arm - Model 62ST | 544611 |
| 3 | 1 | Self-tailing top complete - Model ST FS | 736111 |
| 3.1 | 1 | Circlip | 590400U |
| 3.2 | 6 | Screw | 585140 |
| 3.3 | 1 | Top ring - Model ST | 521201 |
| 3.4 | 1 | O-ring | RD100432 |
| 4 | 1 | Drum complete | 745302 |
| 5 | 1 | Drive shaft complete | 527810 |
| 6 | 1 | Bushing (not removable) | 716503 |
| 7 | 1 | Retaining ring (not removable) | 524500 |
| 8 | 14 | Ball, stainless steel | 526301 |
| 9 | 15 | Ball, POM | 536302 |
| 10 | 1 | Upper base | 745201 |
| 11 | 1 | Roller bearing complete | 724100 |
| 12 | 1 | Circlip | 724300 |
| 13 | 1 | Roller bearing complete | 528601 |
| 14 | 1 | Lower centrestem | 745102 |
| 15 | 6 | Screw | DIN912-A4-M8x16 |
| 16 | 2 | Axel 52ST / 58ST / 62ST | 526810 |
| 17 | 1 | Small ratchet gear complete - Model 58ST | 775700 |
| 17 | 1 | Small ratchet gear complete - Model 62ST | 775750 |
| 17.1 | 2 | Bushing | 525600 |
| 17.2 | 1 | Washer | 524300 |
| 17.3 | 1 | Ratchet gear wheel - Model 58ST | 524900 |
| 17.3 | 1 | Ratchet gear wheel - Model 62ST | 529700 |
| 17.4 | 2 | Pawl | 533400 |
| 17.5 | 2 | Spring | 533500 |
| 17.6 | 1 | Washer | 526400 |
| 17.7 | 1 | Gear wheel - Model 58ST | 524800 |
| 17.7 | 1 | Gear wheel - Model 62ST | 520300 |
| 18 | 1 | Pawl gear | 774700 |
| 18.1 | 2 | Bushing | 786600 |
| 18.2 | 1 | Pawl gear | 774500 |
| 18.3 | 2 | Pawl | 713200 |
| 18.4 | 2 | Arm spring | 713300 |
| 18.5 | 1 | Bushing | 786500 |
| 18.6 | 1 | Large ratchet gear | 774600 |
| 19 | 1 | Base cover - Model ST FS | 745722 |
| 19 | 1 | Base cover - Model ST FS (Electric models) | 745723 |
| 20 | 3 | Screw | DIN912-A4-M6x10 |
| | 1 | Product manual | 710258 |
| | 1 | Service kit 12 (not included) | 710012 |

I MOUNTING INSTRUCTIONS

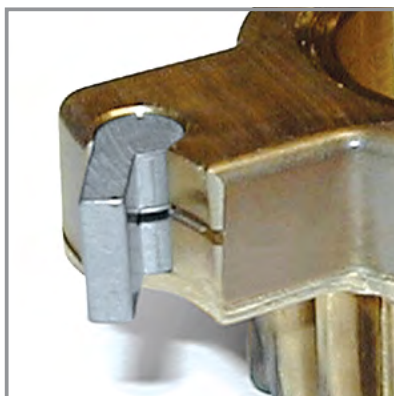
Installing the winch is easy, if you follow these instructions. The numbers in () refer to the position numbers in the parts list.

Tools required for the installation:

- Allen key (5 mm)
- Allen key (8 mm)
- Ø10.5 mm (13/32") drill
- Bedding compound
- 6 x M10 (3/8") countersunk head screws and corresponding nuts (length depending on deck thickness)
- 6 x large washers or backing plate
- Ring spanner to match nuts

1. Drill bolt holes Ø10,5mm (3/8") using the winch template.
Be sure that no dust comes in contact with the winch, while drilling.
2. Remove screws (1).
3. Remove self-tailing arm (2) and drum (4).
4. Apply a light coat of bedding compound, ensuring that each bolt hole is bedded.
Keep drain grooves clear.
5. Fasten lower base (14) into place using 6 pcs. M10 (3/8") countersunk head screws.
Use large washers or a backing plate.
6. Assemble in reverse order.
7. Check that the winch is functioning correctly:
 - The drum should operate smoothly, when turning the drum clockwise by hand.
 - The drum must not turn when trying to turn the drum anti clockwise by hand.
 - While turning the winch handle clockwise the drum should turn slowly.
 - While turning the winch handle anti clockwise the drum should turn quickly.

PAWL SPRING MOUNTING



Note the curved
spring "arm"

SERVICE INSTRUCTIONS

Tools required for service:

- Allen key (5 mm)
- Allen key (6 mm)
- Screwdriver (small)
- Winch handle
- ANDERSEN winch grease

1. Remove screws (1).
2. Remove self-tailing arm (2) and drum (4).
3. Remove drive shaft (5) .
4. Clean the balls (8, 9) with a rag.
DO NOT remove the balls and the small retaining ring (7) above the balls.
5. Remove screws (15).
6. Remove upper base (10).
7. Remove roller bearing (13).
8. Remove shafts (16).
9. Remove and dismantle the two gear units (17), (18).
10. Clean all parts in white spirits/mineral spirits. Remember to clean the gear teeth and ball track inside the drum (4).
11. Assemble in reverse order. During assemble, by the use of a small soft brush lightly grease all gear teeth, drive shaft, roller bearing, shafts, pawls, springs and bushings. Pawls should only be lubricated with a very thin film of ANDERSEN WINCH GREASE. It is very important that pawls can move freely.

IMPORTANT: When assembling the winch, check the functioning of each pawl by pushing the pawl against the spring. The pawls should move smoothly and automatically return to their normal position, where the pawls engage with the teeth. If the pawls do not function correctly, clean and lubricate the pawls and gears. Check the function of the pawls again to make sure that it works correctly. If the pawls do not work correctly replace the springs and recheck the functioning.

Malfunctioning pawls may lead to unexpected release of the winch force resulting in fatal injuries to the user and others.

Service Kit No: 12 (part. no. 710012) contains spare parts for this winch.

Maintenance instructions for PVD coated stainless steel surfaces.

PVD-coated surfaces should be rinsed regularly in fresh water to remove any salt residue, dirt or other contaminants and dried gently with a soft cloth. To remove grease or other marks, a mild abrasive free cleaning agent such as spray-on glass cleaning solution may be used. No caustic detergents or other aggressive or abrasive cleaning agents should ever be used, as they may damage the surface.

GENERAL INFORMATION

Due to the best choice of materials and high precision in manufacturing, we recommend, for normal use, only to dismantle, clean and lubricate the winch once every second year. Under extensive use, such as racing, charter or blue water sailing, we recommend to lubricate the winch once every year.

We strongly recommend always to use ANDERSEN WINCH GREASE, when lubricating your winch. ANDERSEN WINCH GREASE is a high quality silicone/Teflon grease product.

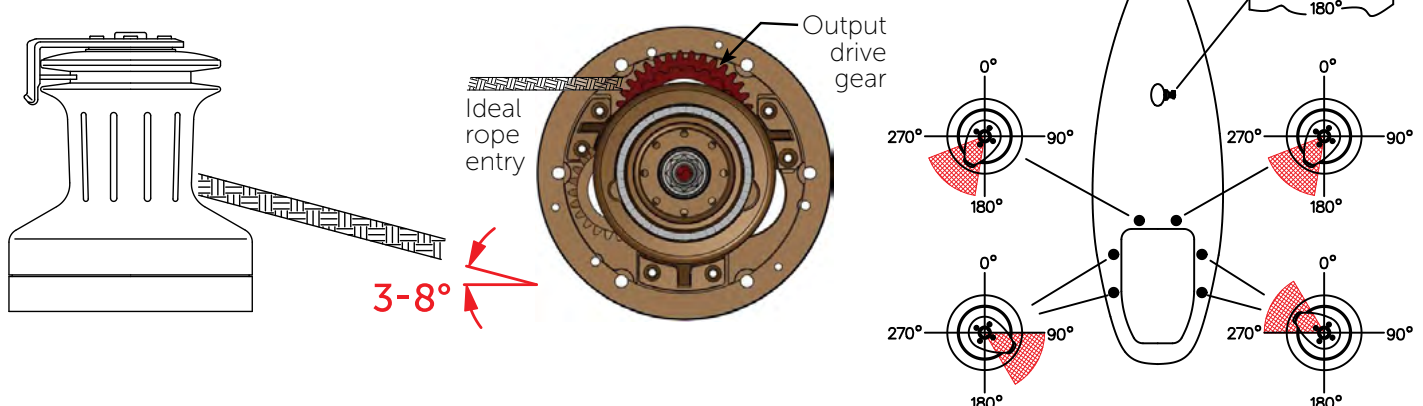
Most other types of grease, including "marine grease" are not suitable for lubrication of winches. Non-suitable grease products can cause malfunction, which could result in fatal injuries for the user and others.

Pawl arm springs should be replaced every second year. Spare arm springs and other parts that may be required are included in the ANDERSEN Service Kit. Please refer to the service instruction for the Service Kit suitable for the specific winch.

When the winch handle is not in use but the winch is under load, we recommend, from a safety point of view, to remove the winch handle from the winch.

To ensure correct function of the self-tailing unit, only use recommended line sizes. When using the winch with mooring lines DO NOT use the self-tailing function and be sure that the mooring line is not in contact with the self-tailing arm.

To ensure the best possible functioning of the winch, we recommend that the winch is placed in accordance with the line entry (shown below).



Be also aware that the self-tailing arm is positioned correctly. We recommend to have the self-tailing arm positioned within the shaded area (shown above). On this model the self-tailing arm can be placed in several different positions after having installed the winch.

To identify the Output Drive Gear, insert a winch handle into the winch and rotate in both directions, the drive gear will only rotate clockwise in a fast and slow speed.

I SAFETY NOTICES

I ALL WINCHES



Read All Safety Notices and Product Manuals

Do not install or operate this winch before reading and fully understanding the contents of this Product Manual.



Stay Alert When Operating

Andersen winches are very powerful and have the potential to cause significant damage and/or serious injury if used improperly or without due caution and vigilance.



Operators Must be Trained

Help prevent significant damage and/or serious injury by ensuring any person operating a winch has a thorough understanding of its proper operation and is aware of the potential hazards involved. As a minimum, all winch operators must read and understand this Safety Notice Sheet and the Product Manual.

Particular attention is drawn to the following points:

- Children and others not qualified to operate an electric winch must be kept at a safe distance from the winch and any rigging or fittings that are under load.
- Long hair and/or loose clothing must be tied back to avoid being caught in the winch.
- In the event of a rope override or other fault, stop the winch and turn off power before attempting to resolve the problem.



Avoid Accidental Operation

Remove winch handles and turn off power to the winch when not in use to help avoid unsupervised or unintentional operation. Failure to do so could result in significant damage and/or serious injury.



Maintenance

Turn off power to the winch before performing any maintenance or service tasks. Failure to do so could result in significant damage and/or serious injury.



Lifting Operations

The winch must not be operated with the rope in the self tailer when used in any kind of lifting operation.

Any lifting operations should be conducted by two persons in order to maintain constant visual contact with the object being lifted.

Furthermore the self tailer must not be used as a cleat for a rope used to lift or suspend any object. The rope must be secured properly by tying off, or leading to a suitable fitting such as a cleat or bollard.

Failure to observe these precautions could result in serious injury or death.

I DO NOT DISCARD



PRODUCT MANUAL

58ST FS (V.2.1.F) | 62ST FS (V.2.1.F)

p8

| WORLDWIDE DISTRIBUTION & SERVICE

| Visit www.andersenwinches.com

| WARRANTY

| Visit www.ronstan.com/warranty

Manufactured by Ronstan Denmark ApS.
Jægervænget 36 - 7100 Vejle - Denmark
office@ronstan.dk - www.andersenwinches.com



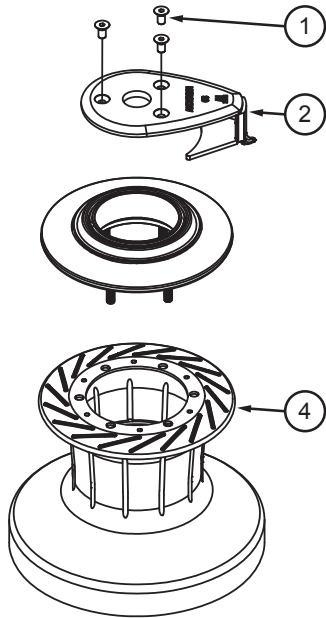
PRODUCT MANUAL

68ST FS (V.3.0.F)

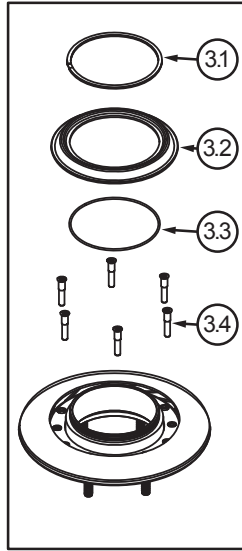
72ST FS (V.2.0.F)



EXPLODED VIEW

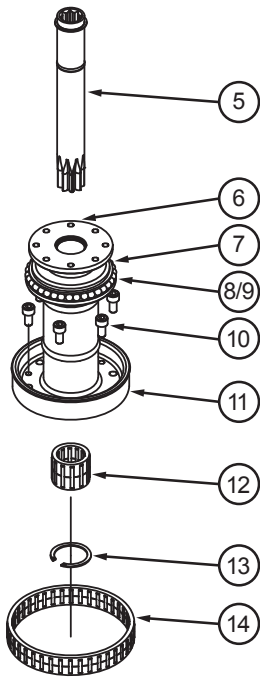
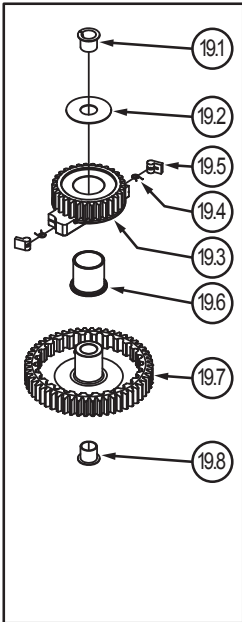


ITEM No. 3
540715

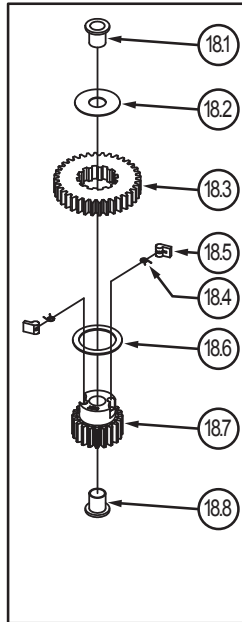


For winches supplied with
Compact Motor®

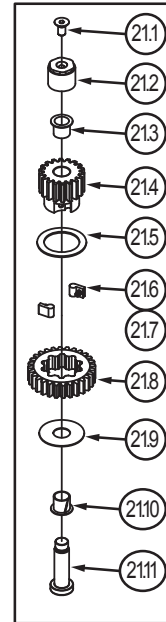
ITEM No. 19
775000



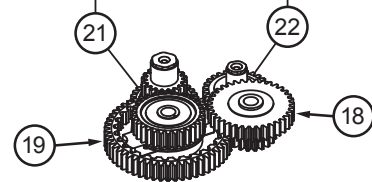
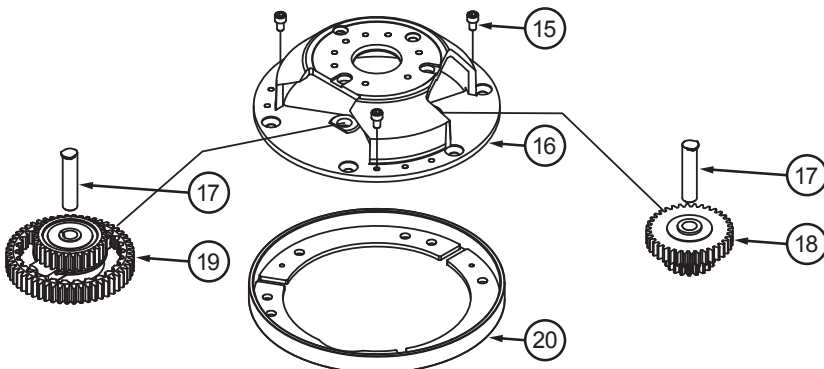
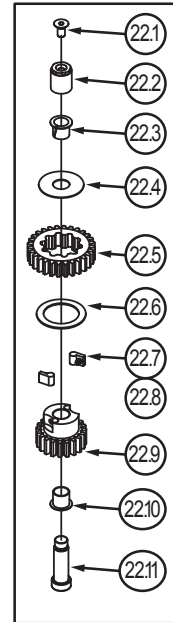
ITEM No. 18
746301



ITEM No. 21
893300



ITEM No. 22
893400



| ITEM NO. | QTY. | DESCRIPTION | PART NO. |
|----------|----------|--|------------------|
| 1 | 3 | Screw | 543312 |
| 2 | 1 | Self-tailing arm - Model 68ST | 746001 |
| 2 | 1 | Self-tailing arm - Model 72ST | 748801 |
| 3 | 1 | Self-tailing top complete - Model ST FS | 540715 |
| 3.1 | 1 | Circlip | 590100U |
| 3.2 | 1 | Top ring | 521310 |
| 3.3 | 1 | O-RING | RD100433 |
| 3.4 | 6 | Screw | 585130 |
| 4 | 1 | Drum complete | 746203 |
| 5 | 1 | Drive shaft complete | 529920 |
| 6 | 1 | Bushing (not removeable) | 716501 |
| 7 | 1 | Retaining ring (not removeable) | 589700 |
| 8 | 14 | Ball, stainless steel | 526301 |
| 9 | 15 | Ball, Pom | 526302 |
| 10 | 6 | Screw | DIN912-A4-M8x16 |
| 11 | 1 | Upper base | 745601 |
| 12 | 1 | Roller bearing cpl. | 724100 |
| 13 | 1 | Circlip | 724300 |
| 14 | 1 | Roller bearing cpl | 588001 |
| 15 | 3 | Screw | DIN912-A4-M6x12 |
| 16 | 1 | Lower base | 750101 |
| 17 | 2 | Shaft | 529801 |
| 18 | 1 | Small ratchet gear complete - Model 68ST | 746301 |
| 18 | 1 | Small ratchet gear complete - Model 72ST | 746351 |
| 18.1 | 2 | Bushing | 529500 |
| 18.2 | 1 | Washer | 529600 |
| 18.3 | 1 | Ratchet gear wheel - Model 68ST | 529100 |
| 18.3 | 1 | Ratchet gear wheel - Model 72ST | 537100 |
| 18.4 | 2 | Arm spring | 713300 |
| 18.5 | 2 | Pawl | 713200 |
| 18.6 | 1 | Washer | 588100 |
| 18.7 | 1 | Gear wheel - Model 68ST | 529300 |
| 18.7 | 1 | Gear wheel - Model 72ST | 537000 |
| 18.8 | 1 | Bushing | RD100657 |
| 19 | 1 | Pawl gear complete | 775000 |
| 19.1 | 1 | Bushing | 893200 |
| 19.2 | 1 | Washer | 529600 |
| 19.3 | 1 | Gear wheel | 774900 |
| 19.4 | 2 | Arm spring | 713300 |
| 19.5 | 2 | Pawl | 713200 |
| 19.6 | 1 | Bushing | 786500 |
| 19.7 | 1 | Large ratchet gear wheel | 774801 |
| 19.8 | 1 | Bushing | RD100657 |
| 20 | 1 | Base cover - Model ST FS | 745820 |
| 20 | 1 | Base cover - Model ST FS (Electric models) | 745822 |
| 21 | 1 | Ratchet gear slow - Compact gear only | 893300 |
| 21.1 | 1 | Screw | DIN7991-A4-M8x16 |
| 21.2 | 1 | Shaft part | 892400 |
| 21.3 | 1 | Bushing | RD100657 |
| 21.4 | 1 | Gear wheel slow | 890500 |
| 21.5 | 1 | Washer | 890300 |
| 21.6 | 2 | Pawl | 533400 |
| 21.7 | 2 | Spring | 533500 |
| 21.8 | 1 | Ratchet gear wheel | 890100 |
| 21.9 | 1 | Washer | 529600 |
| 21.10 | 1 | Bushing | 893200 |
| 21.11 | 1 | Shaft | 891000 |
| 22 | 1 | Ratchet gear fast - Compact gear only | 893400 |
| 22.1 | 1 | Screw | DIN7991-A4-M8x16 |
| 22.2 | 1 | Shaft part | 892500 |
| 22.3 | 1 | Bushing | 893200 |
| 22.4 | 1 | Washer | 529600 |
| 22.5 | 1 | Ratchet gear | 890100 |
| 22.6 | 1 | Washer | 890300 |
| 22.7 | 2 | Pawl | 533400 |
| 22.8 | 2 | Spring | 533500 |
| 22.9 | 1 | Gear wheel fast | 890600 |
| 22.10 | 1 | Bushing | RD100657 |
| 22.11 | 1 | Shaft | 890900 |
| | 1 | Product manual | 710268 |
| | 1 | Service kit (not included) | 710013 |

I MOUNTING INSTRUCTIONS

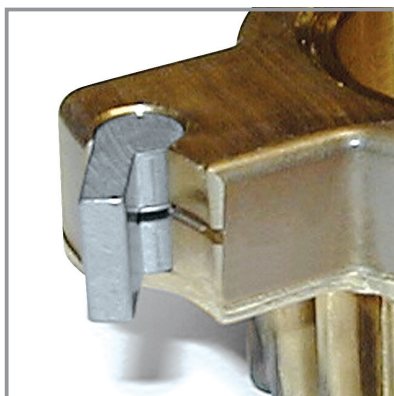
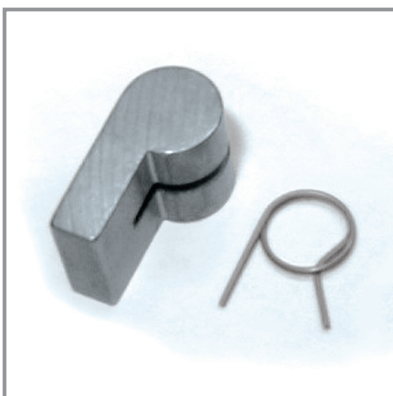
Installing the winch is easy, if you follow these instructions. The numbers in () refer to the position numbers in the parts list.

Tools required for the installation:

- Allen key (5 mm)
- $\text{\O}10.5$ mm (13/32") drill
- Bedding compound
- 6 x M10 (3/8") countersunk head screws and corresponding nuts (length depending on deck thickness)
- 6 x large washers or backing plate

1. Remove screws (1).
2. Remove self-tailing arm (2) and drum (4).
3. Mark location of bolt holes using the lower base (15) as a template.
4. Remove complete winch. Be sure that no dust comes into contact with the winch while drilling.
5. Drill bolt holes $\text{\O}10,5\text{mm}$ (13/32").
6. Apply a light coat of bedding compound, ensuring that each bolt hole is bedded. Keep drain grooves clear.
7. Fasten lower base (15) into place using 6 pcs. M10 (3/8") countersunk head screws. Use large washers or a backing plate.
8. Assemble in reverse order.
9. Check that the winch is functioning correctly:
 - The drum should operate smoothly, when turning the drum clockwise by hand.
 - The drum must not turn when trying to turn the drum anti clockwise by hand.
 - While turning the winch handle clockwise the drum should turn slowly.
 - While turning the winch handle anti clockwise the drum should turn quickly.

PAWL SPRING MOUNTING



Note the curved
spring "arm"

SERVICE INSTRUCTIONS

Tools required for service:

- Allen key (5 mm)
- Allen key (6 mm)
- Screwdriver (small)
- Winch handle
- ANDERSEN winch grease

1. Remove screws (1).
2. Remove self-tailing arm (2) and drum (4).
3. Remove drive shaft (5) .
4. Clean the balls (8, 9) with a rag.
DO NOT remove the balls and the small retaining ring (7) above the balls.
5. Remove screws (10).
6. Remove upper base (11).
7. Remove roller bearing (14).
8. Remove shafts (16).
9. Remove and dismantle the two gear units (17), (18).
10. Clean all parts in white spirits/mineral spirits. Remember to clean the gear teeth and ball track inside the drum (4).
11. Assemble in reverse order. During assemble, by the use of a small soft brush lightly grease all gear teeth, drive shaft, roller bearing, shafts, pawls, springs and bushings. Pawls should only be lubricated with a very thin film of ANDERSEN WINCH GREASE. It is very important that pawls can move freely.

IMPORTANT: When assembling the winch, check the functioning of each pawl by pushing the pawl against the spring. The pawls should move smoothly and automatically return to their normal position, where the pawls engage with the teeth. If the pawls do not function correctly, clean and lubricate the pawls and gears. Check the function of the pawls again to make sure that it works correctly. If the pawls do not work correctly replace the springs and recheck the functioning.

Malfunctioning pawls may lead to unexpected release of the winch force resulting in fatal injuries to the user and others.

Service Kit No: 13 (part. no. 710013) contains spare parts for this winch.

Maintenance instructions for PVD coated stainless steel surfaces.

PVD-coated surfaces should be rinsed regularly in fresh water to remove any salt residue, dirt or other contaminants and dried gently with a soft cloth. To remove grease or other marks, a mild abrasive free cleaning agent such as spray-on glass cleaning solution may be used. No caustic detergents or other aggressive or abrasive cleaning agents should ever be used, as they may damage the surface.

GENERAL INFORMATION

Due to the best choice of materials and high precision in manufacturing, we recommend, for normal use, only to dismantle, clean and lubricate the winch once every second year. Under extensive use, such as racing, charter or blue water sailing, we recommend to lubricate the winch once every year.

We strongly recommend always to use ANDERSEN WINCH GREASE, when lubricating your winch. ANDERSEN WINCH GREASE is a high quality silicone/Teflon grease product.

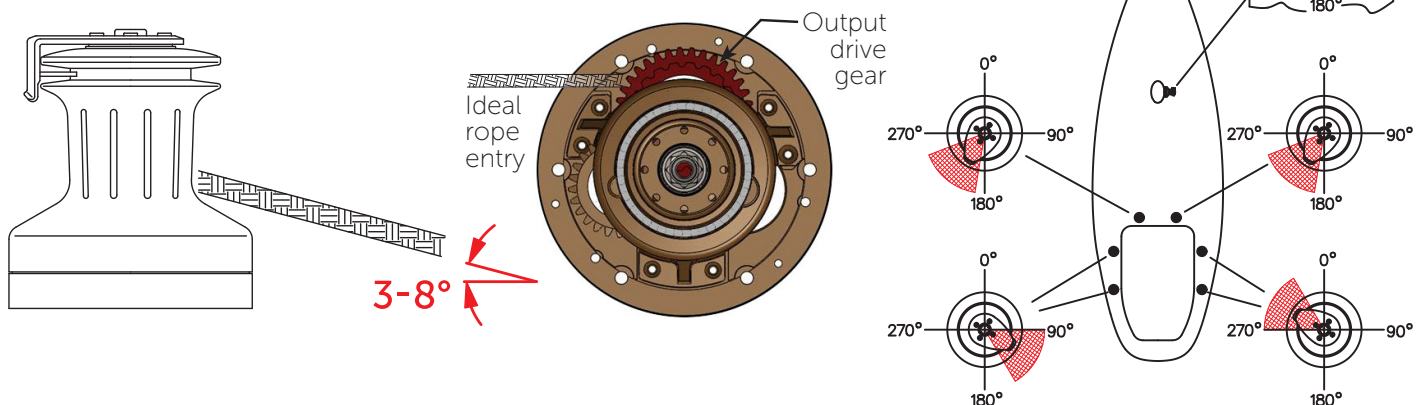
Most other types of grease, including "marine grease" are not suitable for lubrication of winches. Non-suitable grease products can cause malfunction, which could result in fatal injuries for the user and others.

Pawl arm springs should be replaced every second year. Spare arm springs and other parts that may be required are included in the ANDERSEN Service Kit. Please refer to the service instruction for the Service Kit suitable for the specific winch.

When the winch handle is not in use but the winch is under load, we recommend, from a safety point of view, to remove the winch handle from the winch.

To ensure correct function of the self-tailing unit, only use recommended line sizes. When using the winch with mooring lines DO NOT use the self-tailing function and be sure that the mooring line is not in contact with the self-tailing arm.

To ensure the best possible functioning of the winch, we recommend that the winch is placed in accordance with the line entry (shown below).



Be also aware that the self-tailing arm is positioned correctly. We recommend to have the self-tailing arm positioned within the shaded area (shown above). On this model the self-tailing arm can be placed in several different positions after having installed the winch.

To identify the Output Drive Gear, insert a winch handle into the winch and rotate in both directions, the drive gear will only rotate clockwise in a fast and slow speed.

I SAFETY NOTICES

I ALL WINCHES



Read All Safety Notices and Product Manuals

Do not install or operate this winch before reading and fully understanding the contents of this Product Manual.



Stay Alert When Operating

Andersen winches are very powerful and have the potential to cause significant damage and/or serious injury if used improperly or without due caution and vigilance.



Operators Must be Trained

Help prevent significant damage and/or serious injury by ensuring any person operating a winch has a thorough understanding of its proper operation and is aware of the potential hazards involved. As a minimum, all winch operators must read and understand this Safety Notice Sheet and the Product Manual.

Particular attention is drawn to the following points:

- Children and others not qualified to operate an electric winch must be kept at a safe distance from the winch and any rigging or fittings that are under load.
- Long hair and/or loose clothing must be tied back to avoid being caught in the winch.
- In the event of a rope override or other fault, stop the winch and turn off power before attempting to resolve the problem.



Avoid Accidental Operation

Remove winch handles and turn off power to the winch when not in use to help avoid unsupervised or unintentional operation. Failure to do so could result in significant damage and/or serious injury.



Maintenance

Turn off power to the winch before performing any maintenance or service tasks. Failure to do so could result in significant damage and/or serious injury.



Lifting Operations

The winch must not be operated with the rope in the self tailer when used in any kind of lifting operation.

Any lifting operations should be conducted by two persons in order to maintain constant visual contact with the object being lifted.

Furthermore the self tailer must not be used as a cleat for a rope used to lift or suspend any object. The rope must be secured properly by tying off, or leading to a suitable fitting such as a cleat or bollard.

Failure to observe these precautions could result in serious injury or death.

I DO NOT DISCARD



PRODUCT MANUAL

68ST FS (V.3.0.F) | 72ST FS (V.2.0.F)

p8

| WORLDWIDE DISTRIBUTION & SERVICE

| Visit www.andersenwinches.com

| WARRANTY

| Visit www.ronstan.com/warranty

Manufactured by Ronstan Denmark ApS.
Jægervænget 36 - 7100 Vejle - Denmark
office@ronstan.dk - www.andersenwinches.com



ANDERSEN

STAINLESS STEEL WINCHES

PRODUCT MANUAL

82-3ST Winch



FOR USE WITH:

Manual Winch: RA2082010000

Winch Versions: \geq V.1.0

Rev.0



SAFETY NOTICES

Read All Safety Notices and Product Manuals

Do not install or operate this winch before reading and fully understanding the contents of this Safety Notice Sheet and the Product Manual.

Stay Alert When Operating

Andersen winches are very powerful and have the potential to cause significant damage and/or serious injury if used improperly or without due caution and vigilance.

Operators Must be Trained

Help prevent significant damage and/or serious injury by ensuring any person operating a winch has a thorough understanding of its proper operation and is aware of the potential hazards involved. As a minimum, all winch operators must read and understand this Safety Notice Sheet and the Product Manual.

Particular attention is drawn to the following points:

- Children and others not qualified to operate an electric winch must be kept at a safe distance from the winch and any rigging or fittings that are under load.
- Long hair and/or loose clothing must be tied back to avoid being caught in the winch.
- In the event of a rope override or other fault, stop the winch and turn off power before attempting to resolve the problem.

Avoid Accidental Operation

Always turn off power to electric winches at the circuit breaker and remove winch handles when not in use, to help avoid unsupervised or unintentional operation. Failure to do so could result in significant damage and/or serious injury.

Maintenance

Turn off power to electric winches before performing any maintenance or service tasks. Failure to do so could result in significant damage and/or serious injury.

Lifting Operations

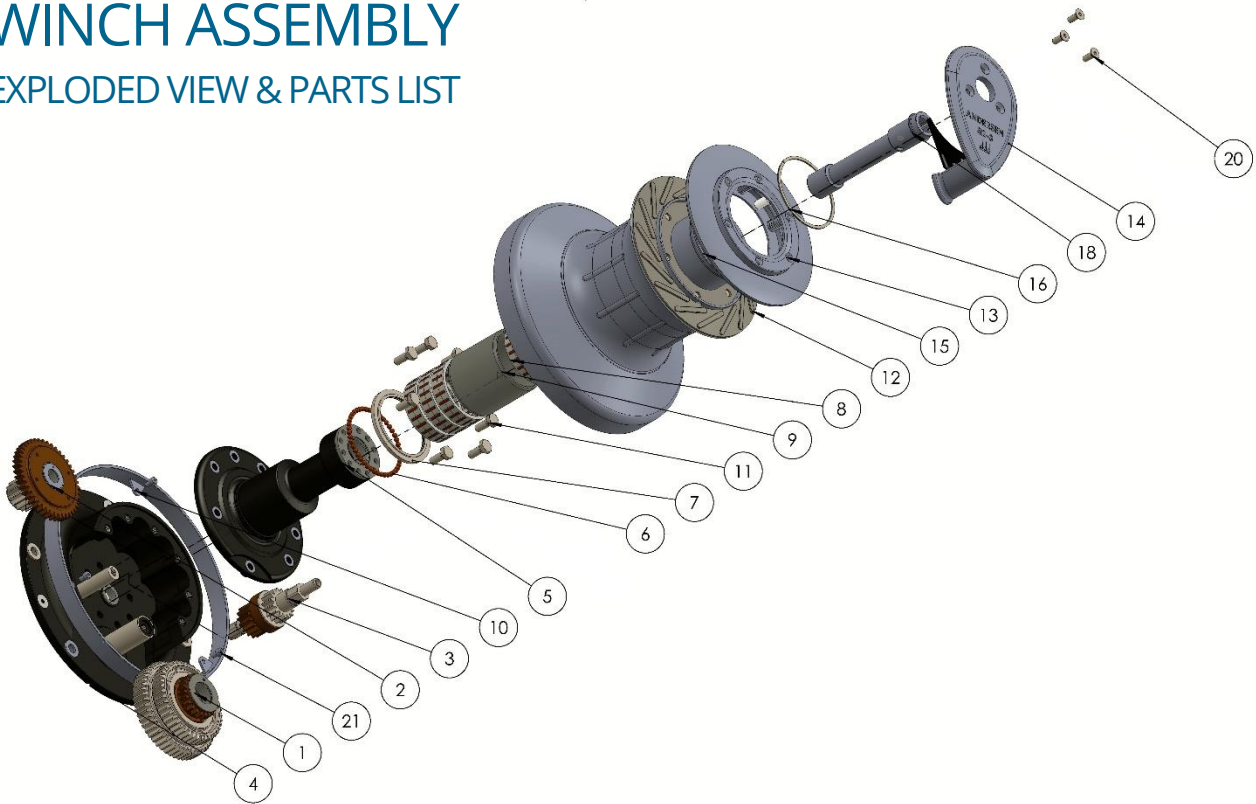
The winch must not be operated with the rope in the self-tailer when used in any kind of lifting operation. Any lifting operations should be conducted by two persons in order to maintain constant visual contact with the object being lifted. Furthermore the self-tailer must not be used as a cleat for a rope used to lift or suspend any object. The rope must be secured properly by tying off, or leading to a suitable fitting such as a cleat or bollard.

Failure to observe these precautions could result in serious injury or death.

DO NOT DISCARD

WINCH ASSEMBLY

EXPLODED VIEW & PARTS LIST



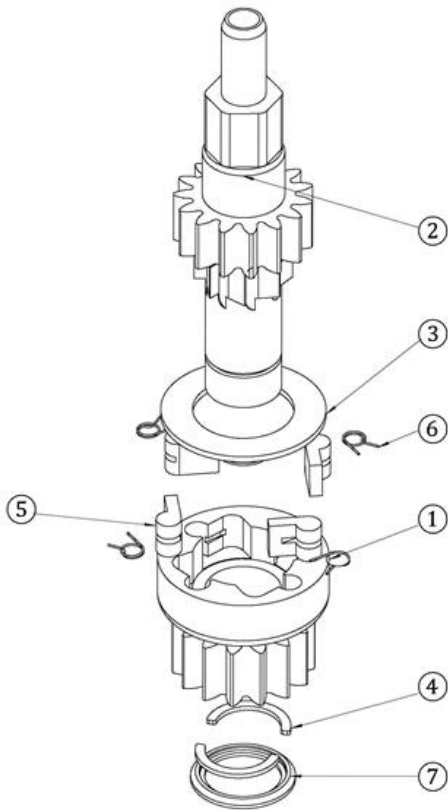
| Item no. | Qty. | Description | Part no. |
|----------|------|--|------------------|
| 1 | 1 | Main drive gear set 82-3ST | 539604 |
| 2 | 1 | 3rd speed gear set 82-3ST | 538003 |
| 3 | 1 | Central gear set 82-3ST | 539704 |
| 4 | 1 | Base 82-3ST | 741607 |
| 5 | 1 | Centre stem assembly 82-3ST | 741511 |
| 6 | 45 | Torlon® ball dia. 1/4" (6.35mm) | 501001 |
| 7 | 1 | Ball retaining ring 82-3ST | 539512 |
| 8 | 4 | Torlon® roller bearing assembly 82-3ST | 539210 |
| 9 | 1 | Bearing spacer 82-3ST | 538201 |
| 10 | 1 | Base cover 82-3ST | 751152 |
| 11 | 8 | Bolt M10x25 hex head | DIN933-A4-M10X25 |
| 12 | 1 | Drum 82-3ST | 741321 |
| 13 | 1 | Self-tailer top 82-3ST | 545411 |
| 14 | 1 | Self-tailer arm 82-3ST | 733412 |
| 15 | 1 | Bush, drum 78ST,82-3ST | 538800 |
| 16 | 1 | Circlip | 590100U |
| 18 | 1 | Drive shaft 82-3ST | 538415 |
| 20 | 3 | Screw M8x20, CSK socket head | DIN7991-A4-M8X20 |
| 21 | 3 | Screw M6x12, CYL socket head | DIN 912-A4-M6X12 |

Torlon® is a registered trademark of Solvay Advanced Polymers.

GEAR SET ASSEMBLY

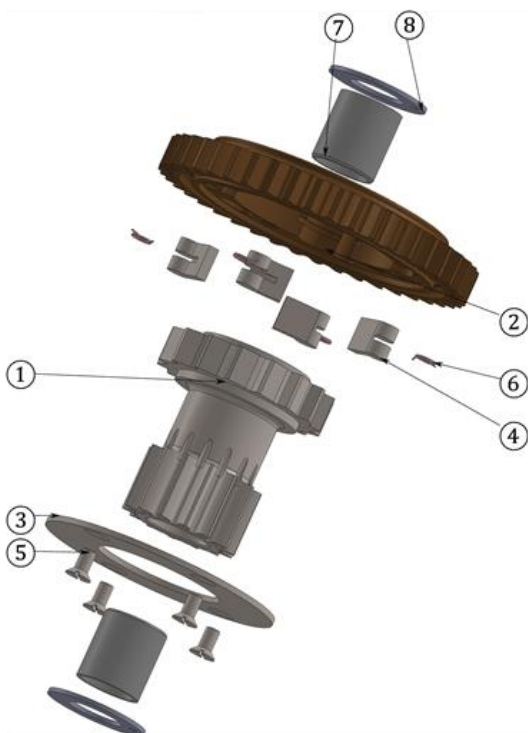
EXPLODED VIEWS & PARTS LISTS

Central Gear Set 82-3ST



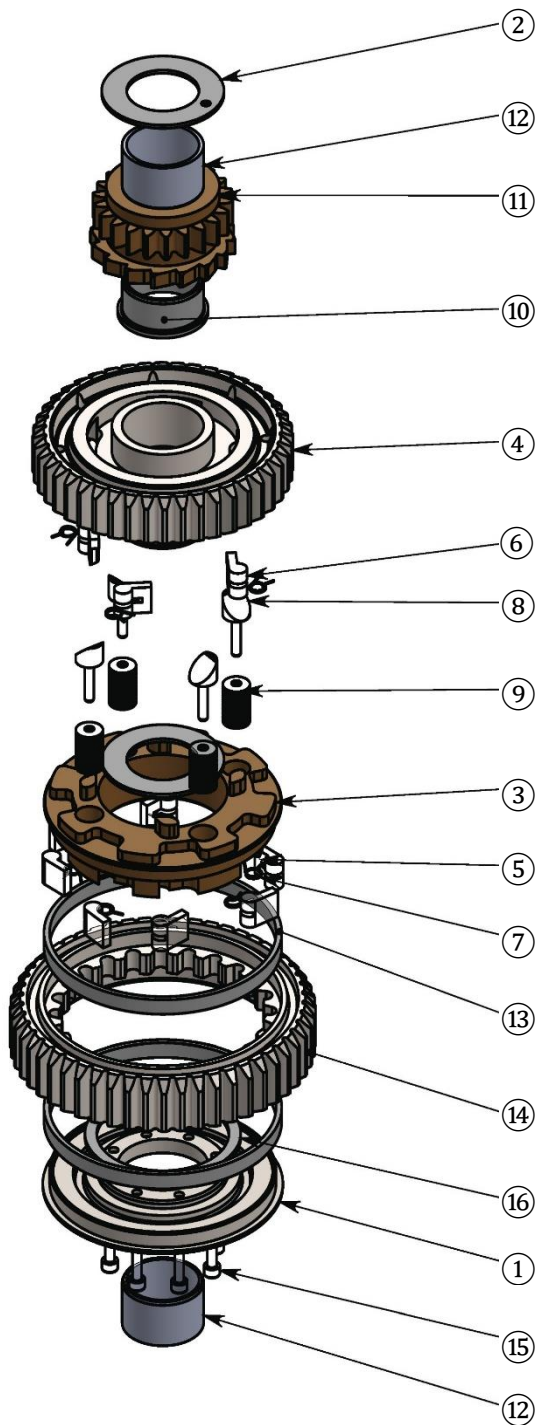
| Item no. | Qty. | Part no. | Description |
|----------|------|----------|--|
| 1 | 1 | 539702 | Lower center ratchet 82-3ST |
| 2 | 1 | 538501 | Lower driveshaft 82-3ST (manual drive) |
| 3 | 1 | 539901 | Center gear thrust bearing 82-3ST |
| 4 | 2 | 539902 | Collets |
| 5 | 4 | 713200 | Pawl for arm spring |
| 6 | 4 | 713300 | Pawl spring, arm |
| 7 | 1 | 539903 | Retainer ring |

3rd Speed Gear Set 82-3ST



| Item no. | Qty. | Part no. | Description |
|----------|------|------------------|-----------------------------|
| 1 | 1 | 538004 | Small 3rd speed drive gear |
| 2 | 1 | 537501 | Large 3rd speed drive gear |
| 3 | 1 | 537800 | Cover washer 82-3ST |
| 4 | 4 | 713200 | Pawl for arm spring |
| 5 | 4 | DIN7991-A4-M5X10 | Screw M5X10 CSK socket head |
| 6 | 4 | 713300 | Pawl spring, arm |
| 7 | 2 | 537901 | Hub bearing |
| 8 | 2 | 537902 | Thrust washer |

Main Drive Gear Set 82-3ST



| Item no. | Qty. | Part no. | Description |
|----------|------|-----------------|--|
| 1 | 1 | 542215 | Cover plate/ bearing |
| 2 | 2 | 532604 | Thrust washer, top |
| 3 | 1 | 542230 | Pawl carrier, auto-switch centerpiece |
| 4 | 1 | 542210 | Drive gear 82-3ST |
| 5 | 8 | 713200 | Pawl for arm spring |
| 6 | 4 | 713201 | Pawl for auto-switch 82-3ST |
| 7 | 12 | 713300 | Pawl spring, arm |
| 8 | 4 | 542235 | Auto-switch angled slider/plunger 82-3ST |
| 9 | 72 | 542238 | Auto-switch disc spring |
| 10 | 1 | 532602 | Overdrive hub bearing, lower |
| 11 | 1 | 542220 | Overdrive gear 82-3ST |
| 12 | 2 | 532603 | Overdrive hub bearing, upper |
| 13 | 2 | 534810 | Bearing, main ratchet gear 82-3ST |
| 14 | 1 | 537702 | Freewheel gear 82-3ST |
| 15 | 8 | DIN912-A4-M4X15 | Screw, CYL socket head |
| 16 | 1 | 532606 | Clutch bearing 82-3ST |

ANDERSEN Stainless Steel Winches®

Your Andersen winch is made with the care and craftsmanship that come from more than sixty years of experience. Andersen winches are built to last, to retain their exceptional finish and to deliver season after season of reliable performance and sailing pleasure to their owners through the years.

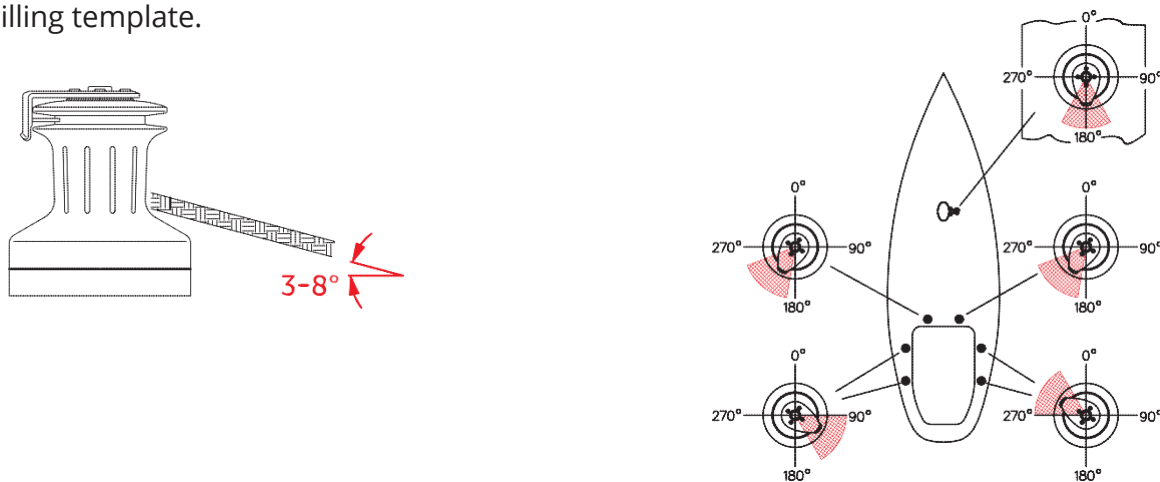
INSTALLATION

Required for installation:

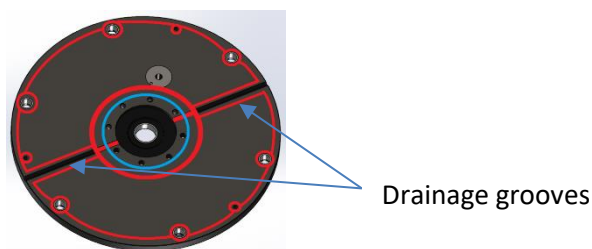
- Drilling/mounting templates for 82-3ST winch
- Hex key, 5mm (included)
- Hex key, 10mm for winch mounting bolts
- Drill bit Ø12.5mm
- 6x ISO 4762-A4 M12 mounting bolts (length as required for deck thickness)
- 6x M12 locking nuts and large washers (or backing plate to match drilling template)
- Spanner, 19mm for mounting bolt locking nuts
- Sealant / bedding compound

Step 1 Determine mounting location and orientation

Position the winch with the recommended line entry angle of 3-8° from horizontal. The self-tailing arm should be positioned to allow the rope to drop clear of the winch as it feeds out of the self-tailer. Positions will typically be as indicated by the shaded sectors in the diagram. The self-tailing arm can be adjusted after installation into one of 12 different positions, as indicated on the drilling template.



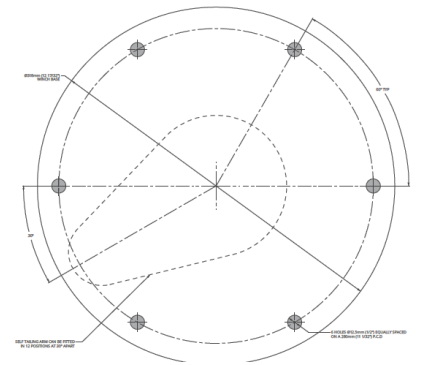
Note the drainage grooves on the underside of the winch base. If the mounting surface is not horizontal due to deck camber or other factors, plan the installation such that water may drain away from the winch base towards the lowest point in relation to the slope of the mounting surface.



Step 2 Prepare the mounting surface

After confirming the mounting location and orientation of the winch, clean the mounting surface and place the drilling template in the required position on the deck. Ensure that the surface is flat and there is adequate space and clearance below deck for access to mounting bolts.

With the drilling template in the desired orientation, drill the $\varnothing 12.5\text{mm}$ holes for the M12 mounting bolts.



Clean any wood or fibreglass splinters from the holes, and clean the deck thoroughly to ensure deck sealant can adhere properly. Apply sealant to the deck around the mounting bolt locations, taking care not to block the drainage grooves in the winch base. For aluminium boats use a galvanic isolating ring/gasket.

Step 3 Install the winch

Use a hex key to remove the screws at the top of the winch, then lift off the self-tailing arm and the drum to expose the centre stem, base and gears. See the exploded view for guidance.

Note that it is not necessary to completely disassemble all components shown in the diagram in order to install the winch.

Position the winch base on the deck in the desired orientation, with mounting holes aligned, and secure it to the deck using appropriate length M12 bolts, large washers or backing plate, and locking nuts.



OPERATION CHECKS

Check manual operation of the winch

First check the winch by rotating the drum by hand. Then use a winch handle to operate the winch manually, turning the handle in both directions with no load on the drum. The winch should operate smoothly in both gears, always with the drum rotating only in a clockwise direction.

For normal operation start by using the winch in 1st gear (highest speed) by turning the handle in a clockwise direction. As load increases and operation becomes more difficult, shift into 2nd gear by turning the handle in the opposite direction so that you can continue to operate the winch comfortably.

- At low loads, reversing the direction of handle rotation from 2nd gear and turning clockwise again will return the winch to 1st gear operation.
- At higher loads, the winch will automatically shift so that reversing direction of handle rotation from 2nd gear to clockwise again will put the winch into 3rd gear, allowing continued operation under high load.

Note: The winch will only shift gear automatically to allow operation in 3rd gear if sufficient load has been reached while operating in 2nd gear. You may manually assist this transition by turning the handle in second gear until there is sufficient resistance to trigger the shift.

SERVICE & MAINTENANCE

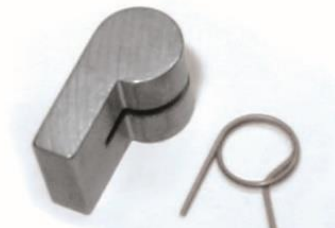
Inspection and service of your Andersen winch is recommended at two year intervals. Service dates can be recorded on the back page of this manual for future reference.

Required for service:

- Hex key, 5 mm
- Spanner, 17mm
- Small flat screwdriver
- White/mineral spirits
- Soft cloth
- Andersen Winch Grease
- Small brush

1. Remove the screws (20) that secure the self-tailer arm (14).
2. Remove the self-tailer arm and drum assembly. It is not necessary to disassemble the spring loaded self-tailer to perform a normal servicing.
3. Clean the bearing surfaces and the gear teeth in the drum with white/mineral spirits. Apply Andersen Winch Grease to the gear teeth, but do not apply any grease to the bearing surfaces.
4. Remove the drive shaft (18) by inserting a winch handle to help pull it out of the centre stem.
5. Remove and clean the roller bearings (8) in soapy water with a soft cloth.
6. Leaving the retaining ring (7) and the ball bearings (6) in place, clean the ball bearings with soapy water using a small brush.
7. Remove the 8x M10 hex head bolts (11) and lift the centre stem (5) off the winch base (4).
8. Remove and dismantle the central gear set (3) and the 3rd speed gear set (2).
9. Clean the gears, pawls and springs in white/mineral spirits.

TYPICAL PAWL & SPRING



Note the curved spring "arm"



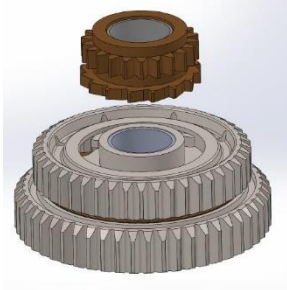
Correctly fitted in a pawl pocket

10. Reassemble the central gear set and the 3rd speed gear set, applying a very thin film of Andersen Winch Grease to the pawls. Do not use any other kind of grease for this purpose. Check the functioning of each pawl by pushing the pawl against the spring. The pawls should move smoothly and automatically return to their normal position where the pawls engage within the gears. If the pawls do not work correctly replace the springs and check again. Malfunctioning pawls may lead to unexpected release of the winch force resulting in serious injury to the user and others.

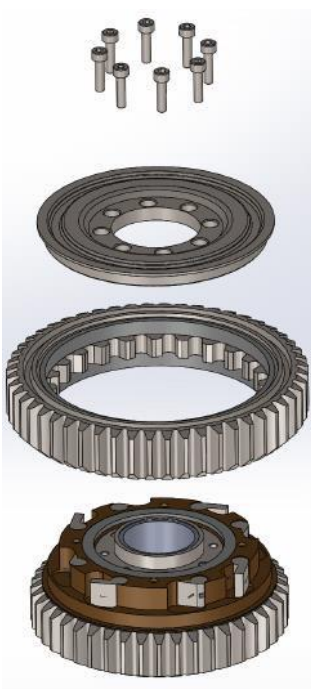
11. Apply grease to the gearwheels and teeth. Put these gear sets aside for the moment and proceed with the next step.

12. Main Drive Gear Set Service

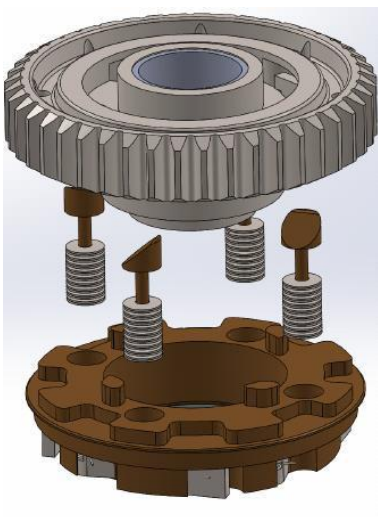
The main drive gear set (1) contains the clutch that engages and disengages to provide 3rd gear or 1st gear operation when turning the winch handle in a clockwise direction. Remove it from the winch base as a complete unit before disassembly.



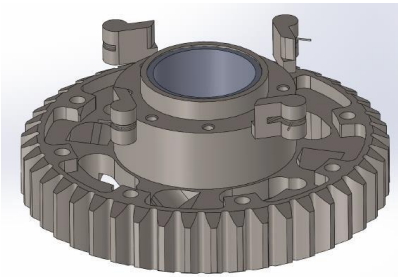
a. The overdrive gear positioned at the top of the gear set can be lifted off and cleaned. Check for wear on the gear teeth and bearing surfaces. Set the overdrive gear aside and proceed with the next steps.



b. Turn the lower part of the gear set upside down and remove the 8 screws that hold it together. Lift off the closing plate and the freewheel gear to expose the bronze pawl carrier. Remove and clean the pawls and springs, checking the pawls and pawl pockets for wear. With normal use these pawl springs should be changed every two years or so.



c. Turn over the pawl drive assembly and separate the drive gearwheel from the bronze pawl carrier to access the springs that control the gear shifting torque. Lift out and clean the springs; check the 4 angled sliders for wear.

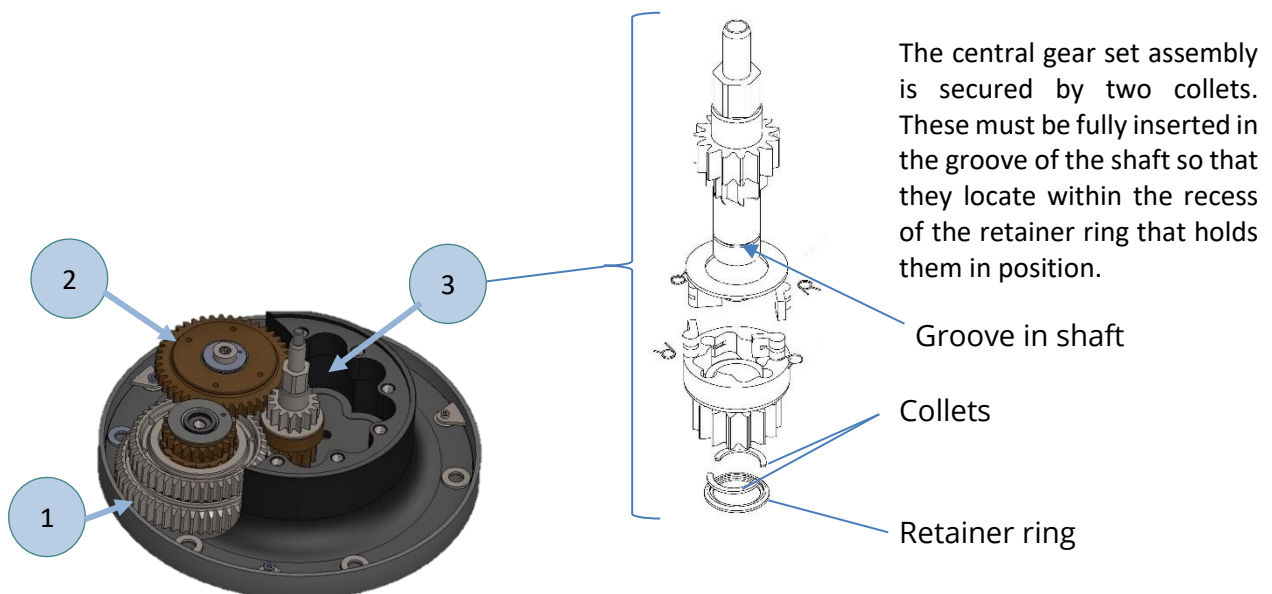


- d. Turn over the drive gearwheel and pull out the 4 special auto-switch pawls. These pawls have a unique profile that is quite distinct from standard winch pawls, so take care to keep them separate. Clean the gearwheel, pawls and springs and check for wear. Springs should be replaced every two years or so.



Auto-switch pawls with arm springs

- e. Reassemble the complete main drive gear set in reverse order to the steps above, taking care to ensure that the 4 angled sliders align with the corresponding slide paths machined into the drive gearwheel. Use Andersen Winch Grease on the gear teeth, bearing surfaces and slide paths, and a very thin film of the same grease on the pawls. When fitting the overdrive gear into place, a flat screwdriver may be used to help move the pawls into their engaged position to facilitate assembly.
13. See the exploded view for reference. To reinstall the 3 gear sets in the winch base: Insert first the main drive gear set (1), then the central gear set (3) and then the 3rd speed gear set (2). The two collets that secure the central gear must be fully inserted and secured in position by the retainer. The collets fit within the recess on the underside of the retainer.



14. Reinstall the centre stem, checking that all gears run freely before tightening the 8x M10 hex head bolts (11). After tightening the bolts, fit the bearings, drive shaft, drum and self-tailing arm to complete the winch assembly. Before first use, check the operation of the winch as described earlier in this manual.

NOTES

CONTACT

Andersen Stainless Steel Winches® are manufactured by Ronstan Denmark ApS.

Jægervænget 36
7100 Vejle
Denmark
info@andersenwinches.com

WORLDWIDE DISTRIBUTION & SERVICE

andersenwinches.com

WARRANTY

andersenwinches.com

Andersen Stainless Steel Winches® is a registered trademark of Ronstan Denmark ApS