

PISTON MOTOR CASE DRAIN UPGRADE

DATE	ISSUE
06.20	Diamond Mowers, LLC has elected to provide this instruction and kit to relieve excess pressure on the piston motor seals
DOC #	CONTACT / EMAIL
15-2053	Warranty & Service 888.960.0364 / warranty@diamondmowers.com

ACTION:

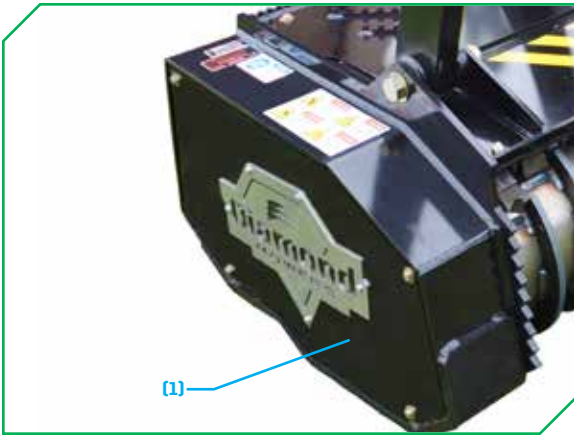
ACTION REQUESTED: Diamond Mowers, LLC is advising all customers to complete this piston motor case drain upgrade to safeguard against pressure spikes that could cause motor seal failure.

DETAILS:

- Reference the pages immediately following this cover page for instructions to install the case drain upgrade to your existing drum mulcher piston motor.
 - Piston motor eligible for this upgrade is Diamond part number 30-0575.
- Reference the last (2) pages for a parts breakdown of the deck feed hoses for the following drum mulcher units equipped with a piston motor, Diamond part number 30-0575:
 - Those 60" (1524mm) models rated for a carrier with a flow rate falling between 32-45GPM (119-171LPM).
 - All 72" (1829mm) models.



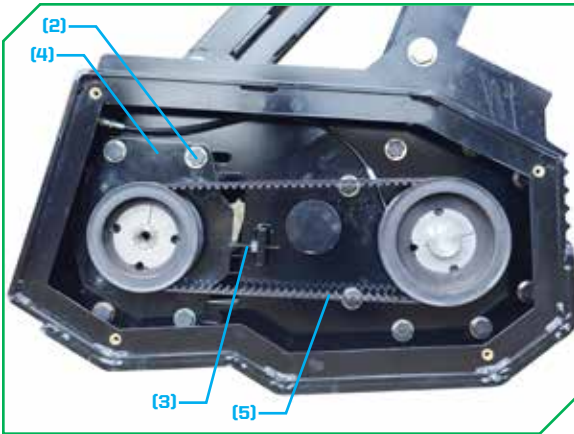
SECONDARY CASE DRAIN INSTALLATION



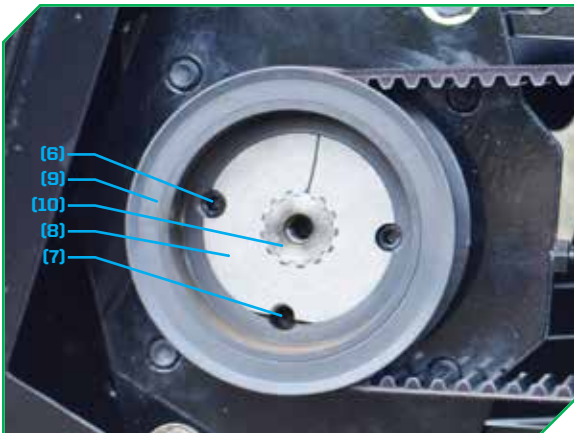
Confirm the work environment is clean. DO NOT allow any dirt or debris to enter the piston motor or failure will occur.

BELT & PULLEY REMOVAL

- Remove the side cover (1) on the piston motor side of the machine.

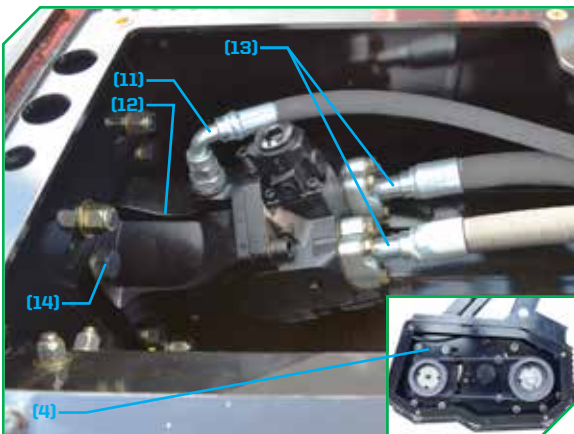


- Loosen the motor mount (2) hardware.
- Loosen the tension adjustment (3) bolt.
 - Loosen the lock nut on the tension adjustment (3) bolt first.
- Slide the motor mount (4) towards the tension adjustment (3) bolt.
- Remove the belt (5).



- Remove the set-screws (6).
- Thread a set-screw (6) in the open hole (7) to separate the tapered collar (8) from the pulley (9).
 - Use a flat screwdriver or chisel to gently open the tapered collar (8) for easier removal.
- Tap the tapered collar (8) and the pulley (9) off of the splined motor shaft (10).

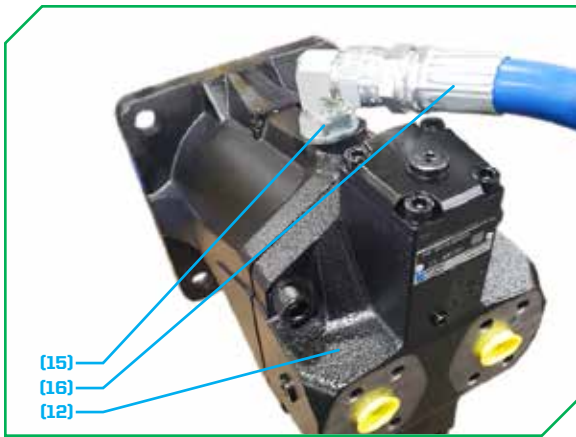
CASE DRAIN INSTALLATION



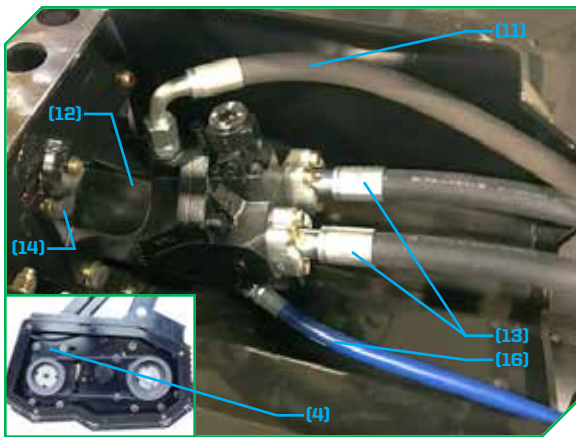
- Disconnect the primary case drain hose (11) from the piston motor (12).
 - Use an oil catch pan to capture hydraulic oil leakage when removing the case drain hose (11).
- Disconnect the pressure and return hoses (13) from the piston motor (12).
 - Use an oil catch pan to capture hydraulic oil leakage when removing the pressure and return hoses (13).
- Unbolt the piston motor (12) mounting hardware (14) securing the piston motor (12) to the motor mount (4) plate, and remove the piston motor (12).
 - Retain the piston motor (12) bolts (14) and hardware.

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SECONDARY CASE DRAIN INSTALLATION



- Remove the factory plug and install the supplied adapter ⁽¹⁵⁾ fitting to the piston motor ⁽¹²⁾.
- Connect the secondary case drain hose ⁽¹⁶⁾ to the adapter ⁽¹⁵⁾ fitting on the piston motor ⁽¹²⁾.



- Bolt the piston motor ⁽¹²⁾ back onto the motor mount ⁽⁴⁾ plate with the factory bolts ⁽¹⁴⁾ and hardware.
 - Use Loctite 262 on the mounting hardware ⁽¹⁴⁾.
 - Torque the mounting hardware ⁽¹⁴⁾ to 376ft-lbs (510Nm).
- Reconnect the pressure and return hoses ⁽¹³⁾ to the piston motor ⁽¹²⁾.
 - Use Loctite 262 on the flange hardware ⁽¹⁴⁾.
 - **DO NOT** cross the pressure and return hoses ⁽¹³⁾ to the wrong piston motor ports.
- Reconnect the primary case drain hose ⁽¹¹⁾ to the piston motor ⁽¹²⁾.
 - Fill the case drain reservoir of the piston motor ⁽¹²⁾ with hydraulic oil before reinstalling the primary case drain hose ⁽¹¹⁾.

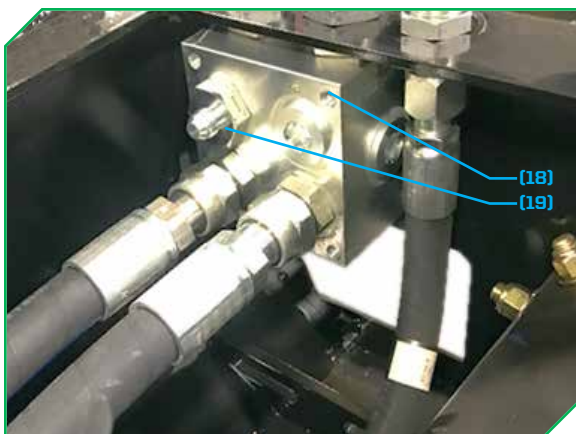
NOTICE

Failure to fill the case drain reservoir with hydraulic oil will result in catastrophic failure of the piston motor!

- Remove the factory plug ⁽¹⁷⁾ from the manifold ⁽¹⁸⁾ on the side of the unit opposite of the piston motor ⁽¹²⁾.



- Assemble the supplied small nipple fitting ⁽¹⁹⁾ to the manifold ⁽¹⁸⁾.



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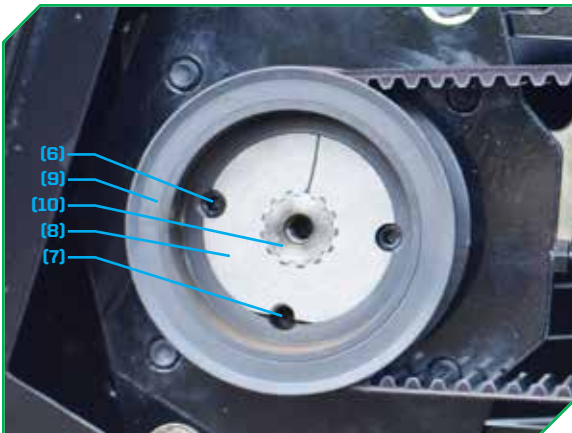
SECONDARY CASE DRAIN INSTALLATION



- Assemble the supplied check valve ⁽¹⁹⁾ to the small nipple fitting ⁽¹⁹⁾ on the manifold ⁽¹⁸⁾.
- Assemble the secondary case drain hose ⁽¹⁶⁾ to the check valve ⁽²⁰⁾ opening labeled "1" with the supplied fitting.

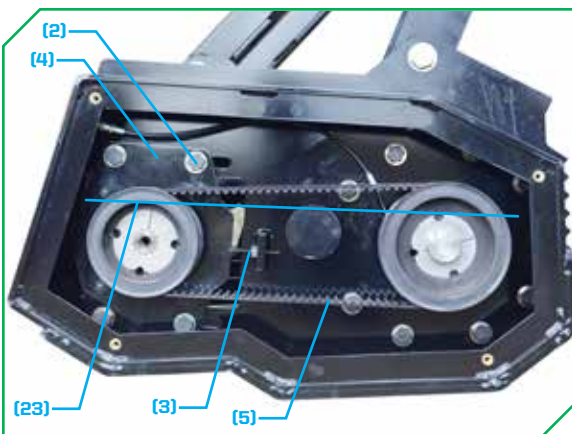


- Tie the hoses together with cable ties ⁽²¹⁾ from one end of the unit to the other to prevent the deck stiffener edges ⁽²²⁾ from chafing or abrading the hoses.
 - **NOTE: DO NOT** tighten cable ties where they can pinch or collapse the secondary case drain hose ⁽¹⁶⁾. Route the secondary case drain hose ⁽¹⁶⁾ so it will not collapse or kink when it and the compartment get hot from operation.



BELT & PULLEY REPLACEMENT

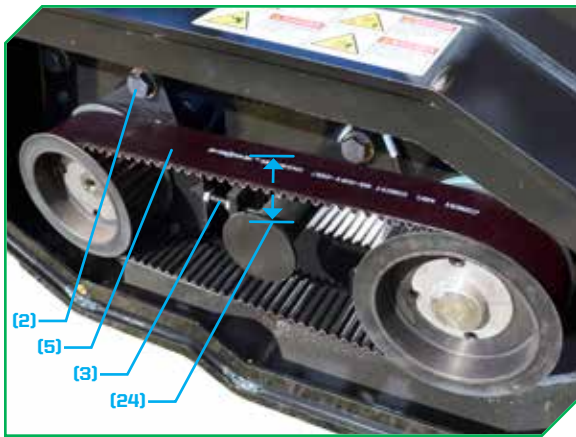
- Tap the tapered collar ⁽⁸⁾ and the pulley ⁽⁹⁾ onto the splined motor shaft ⁽¹⁰⁾.
 - Use a flat screwdriver or chisel to gently open the tapered collar ⁽⁸⁾ for easier installation.
- Thread the set-screws ⁽⁶⁾ into the (2) holes (not in hole ⁽⁷⁾) to pull together the tapered collar ⁽⁸⁾ and pulley ⁽⁹⁾.



- Use a straight edge ⁽²³⁾ to confirm the drive pulley ⁽⁹⁾ is aligned with the drum pulley.
 - If the pulleys are not straight, loosen the tapered collar ⁽⁸⁾ from the drive pulley ⁽⁹⁾ (as detailed on page 2) move the drive pulley ⁽⁹⁾ and tapered collar ⁽⁸⁾ the desired direction and amount on the motor splined shaft ⁽¹⁰⁾.
 - Repeat as needed until the pulleys are aligned.
- Reinstall the belt ⁽⁵⁾.
 - **NOTE:** Replace the belt if wear or damage is noted.
- Tighten the tension adjustment ⁽³⁾ bolt until the belt ⁽⁵⁾ is snug.
 - Loosen the lock nut on the tension adjustment ⁽³⁾ bolt first.
 - Two methods to confirm correct belt tension follow:

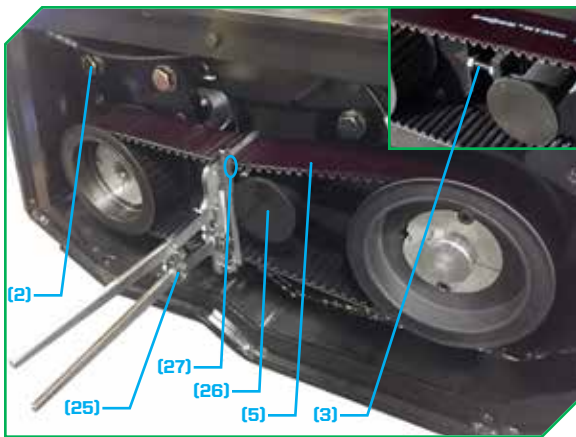
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SECONDARY CASE DRAIN INSTALLATION



STANDARD METHOD (WITHOUT TOOL):

- Deflect ⁽²⁴⁾ the belt ⁽⁵⁾ in-between the pulleys up and down.
 - Total deflection ⁽²⁴⁾ should be in-between 1- $\frac{1}{4}$ - 1- $\frac{3}{16}$ " (32-46mm) when the belt is cold (not been running).
 - Adjust the tension adjustment ⁽³⁾ bolt as needed.
- Tighten the motor mount ⁽²⁾ bolts.
 - Use Loctite 262 on the motor mount ⁽²⁾ hardware.
 - Re-check belt deflection ⁽²⁴⁾ and repeat the previous steps as needed.
- Tighten the lock nut on the tension adjustment ⁽³⁾ bolt.

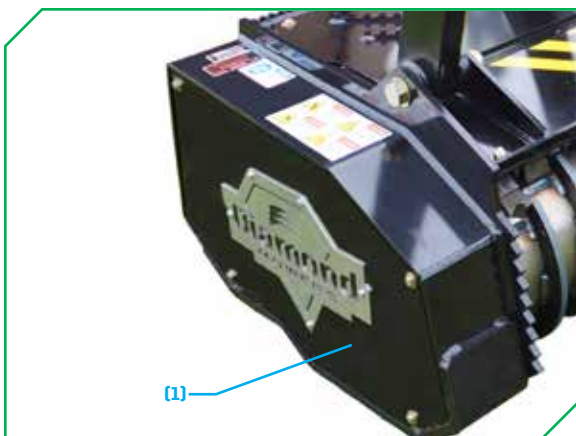


ALTERNATE METHOD (WITH TOOL):

- Place the belt tension tool ⁽²⁵⁾ on the belt ⁽⁵⁾ as illustrated.
 - The belt tension tool ⁽²⁵⁾ should be touching the left side of the standoff post ⁽²⁶⁾.
 - The top edge of the belt ⁽⁵⁾ should be within the notched cutout ⁽²⁷⁾ on the belt tension tool ⁽²⁵⁾.
 - Adjust the tension adjustment ⁽³⁾ bolt as needed.
- Tighten the motor mount ⁽²⁾ bolts.
 - Use Loctite 262 on the motor mount ⁽²⁾ hardware.
 - Place the belt tension tool ⁽²⁵⁾ on the belt ⁽⁵⁾ and repeat the previous steps as needed.
- Tighten the lock nut on the tension adjustment ⁽³⁾ bolt.

NOTICE

The drive belt will contract during use; an overtightened drive belt will cause unwarrantable motor shaft failure.

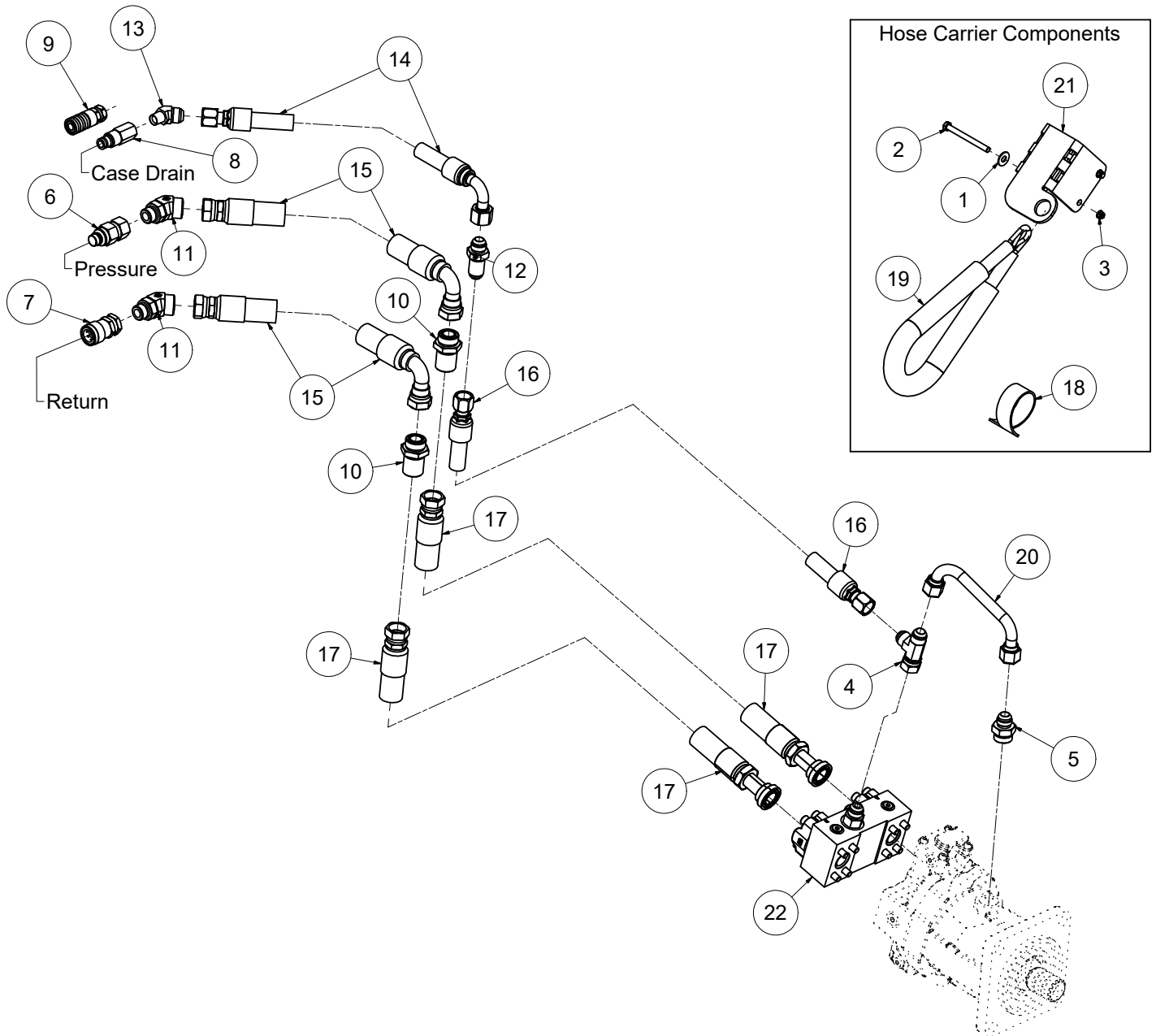


FINAL TASKS

- Inspect the drum mulcher for proper operation.
 - Attach the drum mulcher to the skid-steer / compact track loader and run the drum mulcher at low throttle.
 - Inspect for leaks around hose ends and connections.
 - Inspect for leaks around the piston motor and its seals.
 - Observe the drum mulcher for any unusual vibrations.
 - Correct any issues before proceeding to the next step.
- Replace the side cover ⁽¹⁾ for the motor side of the machine.
- Replace the top access panels from accessing the interior of the drum mulcher.
- Contact Diamond Customer Service at 1-888-960-0364 with any questions or concerns.

PARTS BREAKDOWN

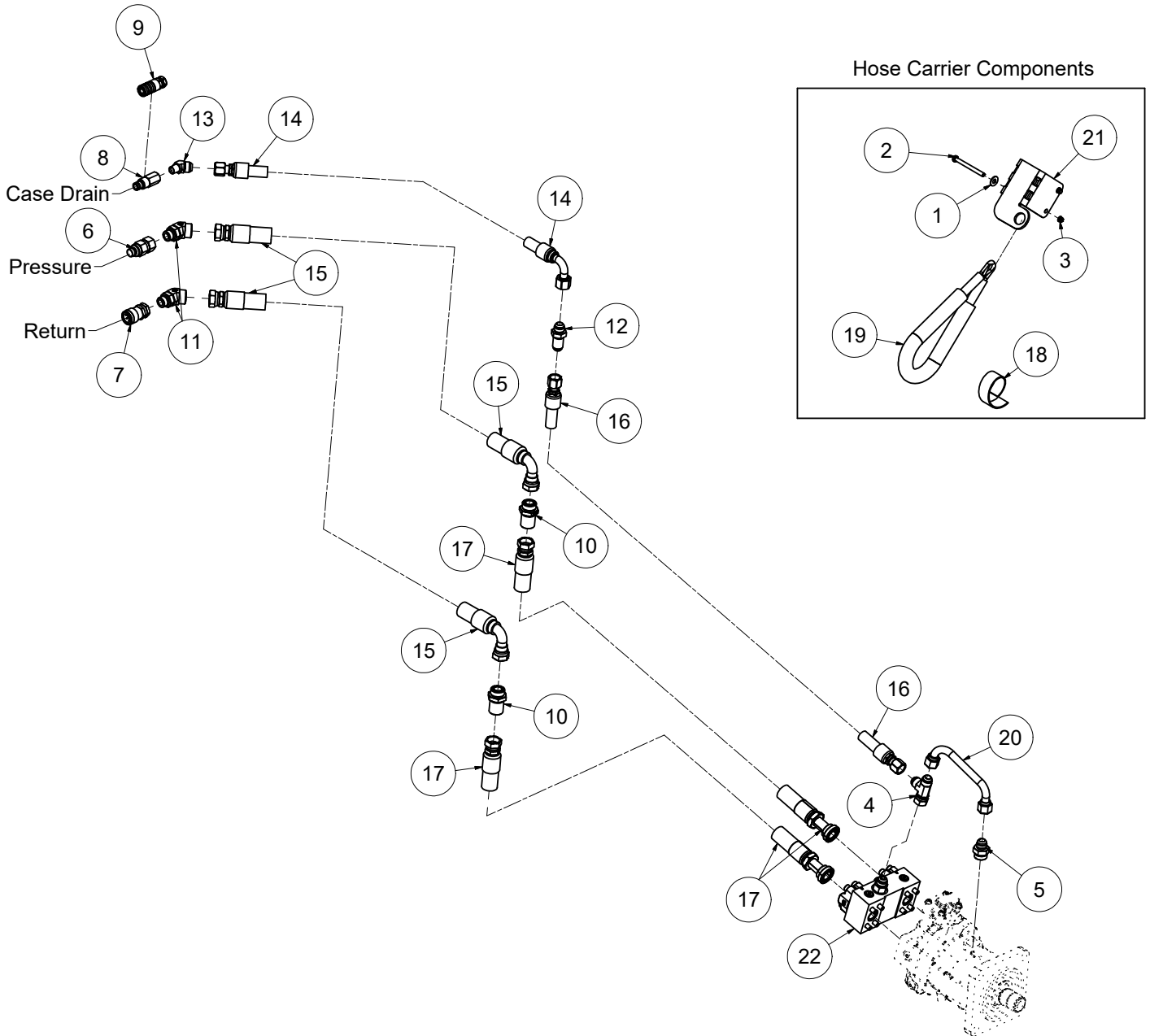
DECK FEED ASSEMBLY - 60" (1524MM), 32-45GPM (119-171LPM)



25-1856-3 Rev D

PARTS BREAKDOWN

DECK FEED ASSEMBLY - 72" (1829MM)



25-1736-3 Rev I