

## 20G Connect and Cut Firewood Processor Component List to Cut Logs from 2" to 36" Diameter.

This list may have 6K Products part numbers and prices or other vendor's part numbers and prices. You can substitute components from other sources if you choose. This list is only an example of the parts that should work to make a functional machine. This list carries no warranties or guaranties.

This list does not include fasteners, fittings, hoses and other items required to completely build an operational machine. You will be responsible for protective guarding and other safety protection required to operate the machine you build.

The parts from other distributors are examples. The part numbers and prices listed may change without notice or obligation.

1. Engine, 28+ brake horsepower. It is possible to use a gas or diesel engine and you can use a vertical shaft engine if you can find the correct hydraulic pump adaptor.
2. Hydraulic pump mounting bracket. 6 ½" engine bolt circle for SAE A 2 bolt pump and about 6" long. Surplus Center #1-3241-L \$64.95, Northern Tool #3034 \$79.99.
3. Shaft coupler assembly.
4. Gear type hydraulic pump, 1.3+ cu. In. per revolution for 3600 rpm motor. If your engine does not run 3600 rpm, you will need to calculate the correct displacement to have 19 to 23 GPM of flow at the engine RPM.
5. Single spool lever operated directional control valve for saw cut and retract. 20 GPM 2000 psi with power beyond port. Bailey International, valve #220994 \$172.00, power beyond conversion #220916 \$28.00.
6. 20G36 Connect and Cut Saw System, 6K Products #DH0608 \$4302.00.
7. 20 GPM priority flow divider, Bailey International #252453 \$37.00, Surplus Center #9-4169-12 \$83.45. This valve will be used to control the conveyor and clamp operating speeds.
8. Two spool lever operated directional control valve for infeed conveyor and log clamp. Bailey International #220900 \$225.00, Surplus Center #9-7875 \$207.55 If you need more infeed features, increase the number of spools in this valve.
9. Log clamping cylinder. Typically you need a minimum of 500 LBS force to clamp the log. The cylinder diameter and stroke will depending on how you configure you clamp pivot and cylinder anchor points. The longer the cylinder stroke, the larger the cylinder rod should be to keep the rod from buckling. You can install an accumulator in the clamp side of the cylinder to help hold the log if it does start to move.
10. Log infeed motor. If you use a 6" diameter sprocket, belt pulley or feed roll to move the log at 100 FT. per minute, you can use a use a #60 roller chain drive with a 2:1 reduction using an 18 tooth or larger sprocket on the motor. The hydraulic motor needs to be about 19 cu. In. per revolution displacement, Surplus Center #9-7079-315 \$193.95, Bailey International 272326

\$278.00. The motor will need about between 5 and 10 GPM to run a good speed. You should install a cross port relief between the valve and motor to protect the motor when it starts and stops and have it set between 1000 and 1500 PSI to extend motor life. The cross port relief at the Surplus Center is #9-4019-50-L \$74.20, Bailey International #222804 \$7121.00. The oil coming from the excess flow port of the flow divider can be used to run an elevating conveyor or must be returned to the filter and tank.

11. Return filter, 20 GPM rated or larger. Surplus Center #9-059 \$17.95, Bailey International #221006 \$25.00.
12. Hydraulic oil tank, 20 to 40 gallons with filler screen and filtered vent. If possible, have the return oil enter away from the suction to help stir the oil for additional cooling. We do not recommend using a suction screen.

Parts needed for driving an optional an elevating conveyor or side feeding conveyor are:

1. 3 Position Detent motor spool valve, Bailey International #220953 \$114.00. A hydraulic motor that is about 9.5 cu. In. per revolution displacement, Surplus Center #9-7079-160 \$177.95, Bailey International #273004 \$218.00. A #50 2:1 roller chain reduction, 15 tooth or larger motor sprocket is recommended. With a motor spool valve the motor can coast when stopped so be sure the conveyor is empty before stopping. If you need to stop the loaded conveyor you will need a cylinder spool valve, Bailey #220998 \$72.00 and a cross port relief between the valve and motor to protect the motor when it starts and stops and have it set between 1000 and 1500 PSI to extend motor life. The cross port relief at the Surplus Center is #9-4019-50-L \$74.20, Bailey International #222804 \$121.00.