changes the drive on amplifiers Q4, Q6, and. Q7. The changed output of Q7 changes the drive of Q2, and therefore of series regulator Q1. This change in drive on Q1 is in the correct direction to oppose any change in the supply output voltage.

For example, if the output voltage tends to increase, the forward bias on the input stage of the differential amplifier increases. This reduces the collector current of the output half of this stage, reducing the drive of amplifiers Q4, Q6, and Q7. The reduced collector current of Q7 lowers the forward bias of driver Q2. The reduced collector current of Q2 reduces the forward bias of series regulator Q1, increasing its effective resistance. The increased resistance of Q1 increases the voltage drop across it, reducing the output voltage.

3—4. CURRENT—LIMITING CIRCUIT

The current—limiting circuit consists of transistor Q8, diode CR18, and their associated components. This stage is connected across the auxiliary 20-volt supply. The current through resistors R21 and R25 through R27 sets the normal bias on this stage. Potentiometer R27 sets the range of CURRENT LIMIT ADJ R25. This potentiometer is adjusted to forward bias transistor Q8 at the current—limiting point.

When the output load demand exceeds the value set by potentiometer R25, transistor Q8 conducts heavily. The collector current of Q8, flowing through R29, forward biases diode CR18. When diode CR18 conducts, it reduces the forward bias of amplifier Q4. This reduces the drive of the series regulator transistor, lowering the output voltage.

Any further increase in load demand further reduces the bias on Q4, further reducing the output voltage. In this manner, the circuit will maintain the load current at the set value for loads down to a short circuit. When the output current demand is reduced, the circuit conditions reverse and the voltage regulating circuits regain control of the output.