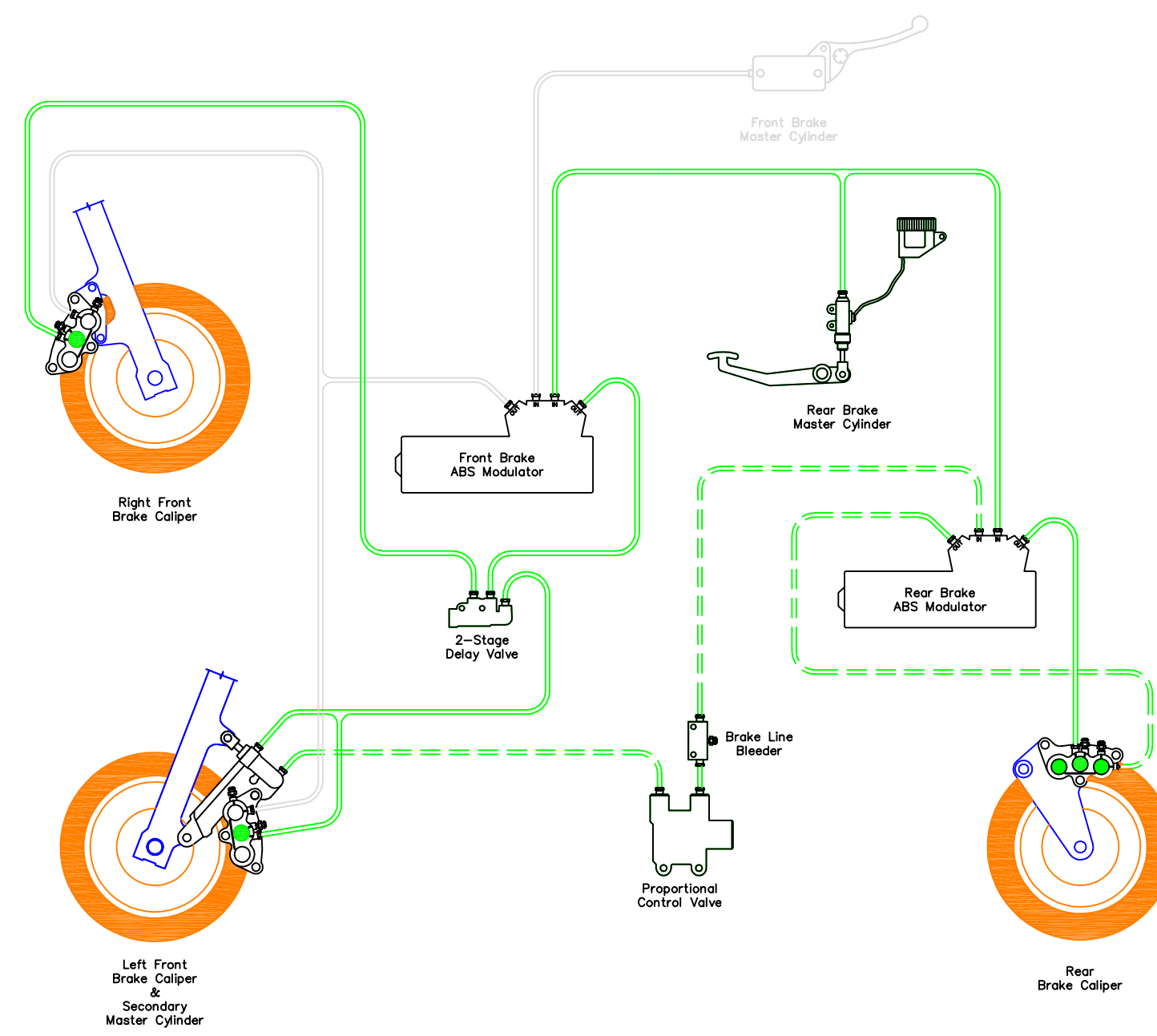


Front Master Cylinder Circuit

This is the simplest brake circuit on the ST-1300. When the front brake lever is applied, brake fluid pressure is applied directly to the two non-center pistons of both front brake calipers equally. The full brake fluid pressure potential of the front master cylinder is applied to both front brake calipers.

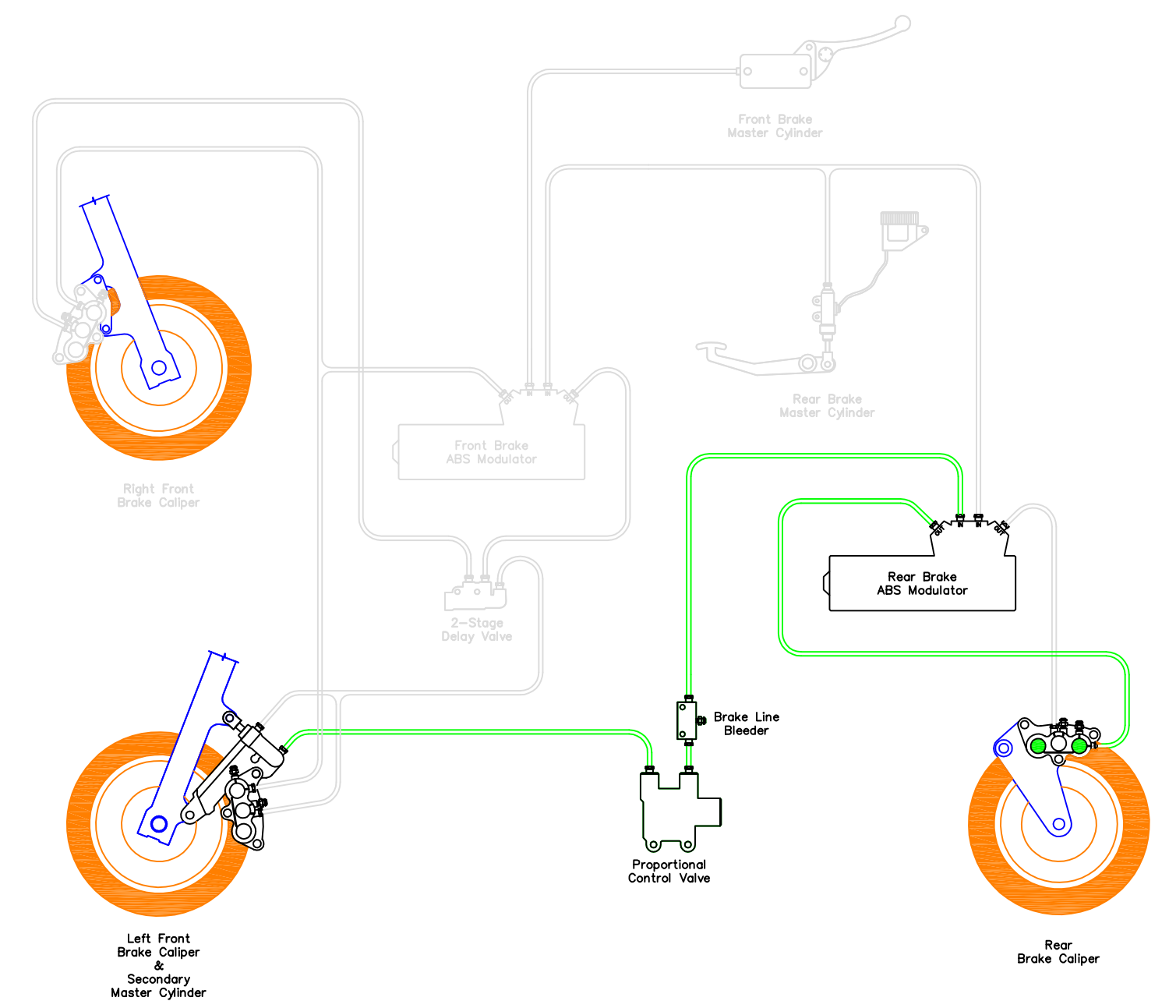
Note: The presence of ABS does not alter the basic functioning of any of these brake circuits. Other than the additional plumbing (for the ABS modulator) the circuits remain unchanged due to ABS.



Rear Master Cylinder Circuit

This circuit is only slightly more involved than the front master cylinder circuit. When the brake pedal is depressed, brake fluid pressure is applied directly to these components:

- 1) Rear Brake Caliper: Brake fluid pressure is applied directly to the center piston of the rear brake caliper. The full brake fluid pressure potential of the rear master cylinder is applied to the rear brake caliper.
- 2) 2-Stage Delay Valve: The delay valve allows full brake fluid pressure to pass to the secondary master cylinder, the center piston of the front left-side brake caliper, as well as the two non-center pistons of the rear master cylinder. When a pre-determined fluid pressure has been satisfied, the delay valve allows the full brake fluid pressure to pass to the center piston of the front right-side brake.



Secondary Master Cylinder Circuit

This circuit is a little more involved than the previous two circuits.

The Secondary Master Cylinder (SMC) only engages as a direct result of the application of the left front brake caliper when the motorcycle is moving in a forward direction. As the left front brake caliper grips the brake rotor, the rotational energy of the rotor is transferred to the brake caliper which causes the brake caliper to move, which in turn applies the SMC.

When the SMC is applied, fluid pressure is generated, and fluid passes to the proportional valve. As all brake fluid for the SMC is supplied by the rear master cylinder, it is likely that at times the brake fluid pressure entering the SMC (from the rear master cylinder) will be greater than the brake fluid pressure generated by the SMC. When that situation occurs, brake fluid passes through the SMC to the proportional valve. Thus the full brake fluid pressure potential of the rear master cylinder can be applied to the proportional valve.

The Proportional Control Valve (PCV) initially limits the maximum hydraulic pressure that can be applied to the two non-center pistons of the rear brake caliper, at higher fluid pressures the PCV lowers the fluid pressure at the two non-center pistons of the rear brake caliper.

**HELCKHOUSE**

North Plainfield, NJ 07060

JOB '06 HONDA ST1300

TITLE LINKED BRAKE SYSTEM

DATE 15.Sept.2012 SCALE NTS SHOW NO. 000 DRAWING NO. 00.00 REVISION 5

DRAWN BY DAVID

**PROPRIETARY INFORMATION**

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Revisions

17.March.2017 Drawing & Notes Clean-Up