

Early Ladybirds

► AMONG SPRING'S "early birds" are the ladybirds. These attractive little spotted beetles, the delight of children, are astir very early.

They have hibernated in hidden cracks and crannies, and the first warm, sunny days tempt them forth. As a matter of fact, they are likely to turn up even during late-winter thaws, along with woolly-bear caterpillars and a few other insects that are able to become active on just a little thermal encouragement.

Why they are called ladybirds is not known with any certainty. One conjecture is that in medieval times they were considered the special charges of Our Lady; their daintiness and apparent harmlessness would make such a fancy quite natural.

Such gentle patronage, however, may possibly be questioned. For the harmlessness of the ladybird beetles is only apparent; actually they are among the fiercest of predators in the insect world, attacking and devouring other insects with voracious appetite. Their tawny color, and the spots that most of them bear, would make some such name as leopard beetle more appropriate.

Most people are unlikely to find fault with the ladybird's carnivorous tendencies, once they learn towards what these tend-

encies are directed by most of the commoner ladybird species, for there are several kinds of these hungry little insects. The ladybirds you most often see prey upon scale insects, aphids or plant lice, and similar enemies of man's most cherished and necessary possessions, the cultivated plants.

They are, therefore, allies in the camp of the human species, with their hands, or rather their mandibles, against their closer kindred of the six-legged world.

In at least one classic case, ladybird beetles were even brought to this country from far overseas to aid in the human struggle against swarming hordes of insect enemies. Ladybird beetles imported from Australia have helped to keep under control one of the worst of the insect enemies of California's citrus groves, a nasty parasite known as the San Jose scale.

They have not entirely wiped out this destructive pest, for to do so would mean their own elimination through lack of a staple food supply. However, by helping keep the scale reduced to a manageable level they have more than justified their existence.

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TECHNOLOGY

"Flying Yardstick" Figures Land Areas

► A "FLYING yardstick" has been developed by pilots and scientists of the Ontario Department of Lands and Forests to help them estimate the size of forest fires.

Called the aerial estimator, the device quickly reveals how much land is on fire. It also can be used to check the acreage burned after the fire has been brought under control.

The device resembles the reflector-type of gunsight used by some fighter pilots. A half spherical mirror projects an image of known size onto the area being checked. Circles on the viewing glass provide the user with data which in turn will reveal the size of the area being checked.

To be installed in some government aircraft, the flying yardstick also can be used to estimate the size of timber stands, areas cut in timber operations, and the size of lakes, mountains and other geographical features.

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AERONAUTICS

Save Pilots in Crashes

► AGRICULTURAL PILOTS and others who are subject to low-level crashes while flying will be particularly interested in a new shoulder-harness-seat-belt and gravity reel combination developed by Fred E. Weick, director of the Personal Aircraft Research Center at Texas A. and M. College, College Station, Tex.

Mr. Weick, a nationally-known aircraft designer and engineer, combined the seat-belt with the shoulder-harness so that both can be fastened quickly and easily, using the seat-belt buckle alone.

At the rear, the shoulder straps slide over a tubular support and down to an inertia-locking reel mounted on the rear wall of the cockpit.

This arrangement allows free movement of the whole upper body, so long as the plane does not experience a deceleration of three g's or more, as it would in even a mild crash.

In the event of a crash, the reel moves forward of its own inertia against a light spring clamp and engages a ratchet which locks it in place. If the pilot knows he is going to crash, he can lock the reel in advance by moving a handle on the left side of his seat.

Immediately after the plane comes to a full stop, the reel disengages from the ratchet, again allowing full movement.

The combination belt-harness is more convenient in most aircraft, since it is hung on two small pegs in the cockpit walls when not in use. The pilot sits down, lifts the belt down and fastens it. Frequently this can be done more quickly than the loose ends of the ordinary seat-belt can be

found, straightened out and fastened, Mr. Weick said.

The modification in which each shoulder strap is permanently joined with the seat-belt can be used regardless of whether the inertia reel is incorporated.

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CHEMISTRY

Paints to Show What's Red Hot

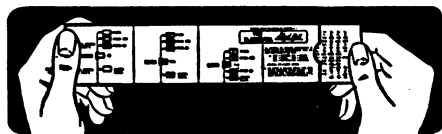
► "RED HOT" may have a new meaning soon as the result of a new series of special purpose paints being developed at the Naval Research Laboratory in Washington, and reported by A. L. Alexander, J. E. Cowling and Peter King to the meeting of the American Chemical Society in Los Angeles.

Metallic compounds which change color when they reach certain temperatures have been made into paints by this research team. These paints can be spread or sprayed onto aircraft engines, industrial heat exchangers and other inaccessible spots where it is important to know the maximum temperatures reached during a run, but difficult to attach measuring instruments.

Combining a solution of colorless methacrylate resin with the brightly colored compounds of cobalt, nickel, iron, manganese, chromium and copper, the Naval Research Laboratory chemists have produced a whole series of tell-tale paints which can be used to determine the heat developed over a wide range of temperatures.

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